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SPECIAL ARTICLE.

THE ENDOWMENT OF MEDICINE.¹

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MR. CARNEGIE some years ago said that the millionaire who dies rich deserves a dishonorable grave and he appears to be earnestly striving to avert such a calamity from himself. His example is being imitated by others who find what Rabelais calls the "pecuniary imposthume" so burdensome as to call for evacuation. Millionaires are vying with each other in giving of their abundance for public purposes. The names of Lord Iveagh, Mr. A. L. Jones, and Mr. Yates Thompson in England, and Mr. Rockefeller, the Vanderbilts, Mr. J. Pierpont Morgan, Mr. Johns Hopkins and many others in the United States will live not only in the mouths of men but in the magnificent foundations which medical science owes to their enlightened liberality.

All here will doubtless agree with President Eliot of Harvard who in announcing the recent gift of a million dollars to the medical department of Harvard University said: "There is no department of the University to which a great gift of this sort could be made with a greater hope of an abundant return. The progress of medicine and surgery during the last twenty years is simply amazing. The triumphs of the physician and surgeon over death and disease are unparalleled in the whole history of the world, but we have as much and more to look forward to and I know no department of scientific research from which greater hope can be entertained than the department of applied biology. Moreover this great gift comes as a reward to one of the most laborious and enthusiastic and hopeful of all the faculties of the University—the faculty of medicine." The wealthy philanthropist could find no better way of using his money for the benefit of mankind than the endowment of medical research; for it is in the growth of knowledge relating to living matter that lie the best hopes for the future of the human race. But the knowledge gained in the laboratory will be, as Falstaff says, like a hoard of gold kept by a devil, unless it is set in action and used for the prevention of disease and the relief of suffering. The endowment of research therefore cannot fulfil the purpose which is intended unless it is supplemented by the provision of means for the practical application of its results. And among the means to this necessary end the chief is the proper education of those who have to apply the results of research.

Medical education might at first sight appear to concern only those who wish to practise the art of healing. But in reality it concerns even more closely the people at large on whom they will practise their art. If physicians and surgeons are imperfectly equipped for the important functions which they discharge towards the community and the individuals who compose it, both the community and individuals must suffer. Again, if there be not an adequate supply of doctors a large proportion of the victims of illness and accident must necessarily go unrelieved. These are plain facts, so obvious that they do not need to be insisted upon.

It may be said there is no fear of a dearth of doctors or of medical schools and it may be admitted that at the present moment there is in most civilized countries a superfluity of doctors and no want of medical schools. Certainly in the United States you are abundantly supplied with such institutions. Nevertheless it does not need the gift of prophecy to foresee that the time is not far distant when the profession so far from being overcrowded will, unless means are found to prevent such a consummation, tend to dwindle in numbers and also in usefulness while medical schools will undergo a process of deliquescence. It is not that medicine will cease to fascinate minds thirsting with the divine love of knowledge, or to offer a career in which any one of fair ability who is willing to work may find a livelihood. The cause is a purely economic one. Medical education is becoming so expensive that, unless its costliness can be kept down by endowment, it must tend more and more to become a luxury reserved for the rich.

One has only to look backward a very few years to appreciate the prodigious change which has come over the whole system of medical education. When I began the study of medicine thirty-five years ago the arrangements for teaching were of a simplicity that to us in these days seems quite primitive. Except the rooms set apart for practical anatomy and practical chemistry there was nothing whatever in the shape of a laboratory. Histology, such as it was, was taught with the help of a few cheap microscopes down which the more earnest of the students strove for the privilege of peeping from time to time. At the distribution of prizes in one of the leading medical schools of London in 1870 the late Professor Huxley, then examiner at the University of London where the standard was incomparably higher than anywhere else in Europe, complained that even the best students had the most misty ideas on the elementary facts of physiology, because they had not been taught it as they were taught anatomy, that is to say by

¹ Address delivered before Johns Hopkins University, Oct., 1901.

direct observation of phenomena and contact with the facts of Nature. But how could they have been so taught when there was, I believe, only one physiological laboratory at the time in London? That laboratory, it may be added, though in a spiritual sense illuminated by the brilliant genius of the men who worked in it, in regard to apparatus and even furniture, it reflected the poverty which was the portion of scientific teaching in those days. And such as it was only a select few of the students took advantage of the opportunities which it offered. Pathological laboratories did not exist and clinical laboratories were not even among the dreams of the future. That this state of things was not confined to London may be gathered from the interesting reminiscences contributed by Sir William Gairdner to the recently published "Book of the Jubilee in Commemoration of the Ninth Jubilee of the University of Glasgow 1451-1901." The distinguished Emeritus Professor of Medicine in the University on the Clyde there says that in "the Sixties the prevailing conception of the requirements of a professoriate were a lecture room (with a chair, of course!), a retiring room, and a few other unconsidered trifles in the way of blackboards, chalk, diagrams, etc."

Now we have laboratories not only of anatomy, physiology and chemistry but of pathology, bacteriology, hygiene, pharmacy, and pharmacology, to say nothing of departments for the practical teaching of obstetrics, surgery and medicine. Then there are the clinical laboratories attached to the various services in hospitals. And in this matter scientific teaching is like the daughter of the horse-leech and is ever crying "give, give!" Now even for an examination apparatus of various kinds is required.

In the old days the medical student got his knowledge from lectures supplemented by the reading of text-books; now he gets it at first hand in the laboratory. This is as it should be. But modern laboratories absorb more money than the most eager alchemist ever threw into the flames of his furnace in the search for the philosophic stone. Vast sums are needed to build and equip and maintain them. Then there must be teachers, and these must be men who give their life to scientific work and who therefore require to be paid at a rate that shall at least keep their mind free from sordid cares if it does not recompense them for the sacrifice of the chances of practice. Moreover they must have assistants, and these also must be paid on a scale sufficient to attract men of the highest ability. Altogether therefore the laboratories absolutely necessary nowadays for the adequate training of practitioners of medicine, are so costly as to make it impossible to maintain them at a proper level of efficiency without external aid.

It may be said that the money should be supplied by the students. The cost of a medical education is already so heavy as to debar many otherwise fitted to adorn the profession from entering

it; and as medical science expands education must necessarily become more and more expensive. In some of our London medical schools the funds are to a large extent supplied by the medical staff of the hospital to which they are attached. It is obviously unfair however that this burden should be borne by men who give their services to the hospital without remuneration; and it is clear that, as the burden tends to become heavier, the limit of endurance will sooner or later be reached. On the other hand if the students' fees are to be increased to the degree necessary to support the school, there will very soon be no school to support. It is clear therefore that unless some *deus ex machinâ* comes to the rescue, our medical schools must collapse.

It may be said that there are too many medical schools and that some of them might without disadvantage be allowed to die a natural death. Even if this be admitted, the fact remains that, if the supply of doctors is to be proportionate to the needs of the population, the means of an adequate education must be within their reach. For this purpose there must always be a considerable number of medical schools, and it is self evident that these schools will, under the conditions of modern scientific development, never be self supporting.

The only solution of the problem lies in endowment; and for this we must look to the State or to the pious founder. I read not long ago in a leading medical journal of this country that a distinguished New York physician and teacher had said: "I hold that the State ought to furnish sufficient funds for the adequate and thorough instruction of all pupils in every medical institution already legally organized, and for such others as the increase of population may cause to be established under the regulation of the State." This would certainly be a "large order" for the State to undertake, and I think the taxpayer would be justified in a revolt against such a demand. But that the State should contribute towards the provision of a sound training for a profession whose services it is likely to find increasingly necessary seems to me an incontrovertible proposition. In Germany, in France, in Italy, and indeed in every country in Europe except England, the State takes upon itself a large share of the burden of medical education. And what is the result? England which not long ago was in the van of medical progress is now slowly but surely falling to the rear. There is far more than the question of national pride involved in this scientific retrogression. The want of opportunities for acquiring the skill and knowledge needed for the successful practice of medicine must in no long time have an unfavorable effect on the physical well-being of the nation; it is conceivable that it might even help to bring about its downfall.

It is on this ground that the State may fairly be asked to include liberal grants in aid of medical education in its Budgets. But we want the pious

founder too. While we rejoice to see the stately Temples of Science which have arisen in Liverpool, in New York, in Philadelphia, in San Francisco, here in Baltimore—where if one wishes to see a monument of enlightened munificence he need only look around, we appeal to any millionaires who may be looking for a worthy object of benefaction to think of the claims of medical education. There could surely be no way of applying wealth more useful to mankind than to help to secure the completest possible training for those who are to be the guardians of the public health.

ORIGINAL ARTICLES.

THE INFLUENCE OF THE COLORADO CLIMATE UPON PULMONARY HEMORRHAGES.¹

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A COMPLETE discussion of this subject should include the preliminary introduction of certain physiological considerations followed by the collaboration *en masse* of clinical facts.

The physiological interest centers chiefly in the respiratory and circulatory changes produced by the diminished barometric pressure. Relative to this in health, much valuable information has already been advanced. It seems sufficient for present purposes to call attention briefly to the increase in the depth and frequency of the respirations and in the rate and vigor of the heart contractions. From this there results a considerable degree of vesicle dilation, increased chest expansion, greater lung capacity, together with an acceleration of the blood-flow and an equalizing of the circulation throughout the body. The tendency to local stasis or capillary congestion in the lungs is thus avoided.

The peculiar changes in the blood itself incident to the altitude consist in an increase of the hemoglobin and in the number of red blood-cells. It is reasonable to suppose by virtue of these influences that the tendency to pulmonary hemorrhage in high altitude should be distinctly lessened in cases judiciously selected with reference to other considerations. It remains for the correctness of this to be demonstrated ultimately by the established facts of clinical experience, and such shall be the scope of this paper.

In presenting the result of my personal observations it is my desire to refute any prevailing opinion that elevated regions are unsuited for hemorrhages in general. It is my conviction, however, that hemorrhages *per se* constitute neither an indication nor a contra-indication for moderate altitudes. The hemorrhage, let it be remembered, is but one of many outward manifestations of the disease, occurring at any stage of the infectious process due to a variety of

causes with widely differing pathological conditions, associated with all manner of concomitant symptoms, and representing but a single component and perhaps comparatively unimportant part of the clinical picture as a whole.

While it will be seen that hemorrhage cases with certain modifications have done exceedingly well in Colorado, it is insisted, nevertheless, that the choice of climate must be made with reference to *all* the several phases and conditions, without especial attention to hemorrhage itself, save under the specific circumstances to be hereinafter described.

My observations are derived from my private work in Colorado during a residence of nine years. I have selected from my list of recorded patients a series of nine hundred cases *seriatim*, which may be said to fairly well represent the character of cases sent to Colorado taken as they come, and who have remained sufficiently long under observation to permit at least approximate conclusions.

I make no effort at this time to classify the cases with reference to physical conditions and prognosis at time of arrival, as such distinctions do not appear pertinent to this inquiry. It should be said, however, that the very incipient cases were but seldom observed and that the great majority belonged to the category of advanced infection. The patients required no admission blanks to gain entrance to Colorado and many are thus included with a prognosis utterly hopeless from the beginning. I have thought it best to embrace even these in the list in order to secure an authentic and established basis upon which to compute further statistics. As briefly illustrative of the general character of the cases I will refer to one of my previous papers,¹ in which it is stated that "out of five hundred and forty-six cases, seventy-one per cent. of the patients arrived in the State with distinct evidence of tubercular infection in each lung and with a total average period of delay following the definite onset of the disease before arrival of over eighteen months, affording abundant opportunity for advanced pulmonary and constitutional impairment."

With many of the cases it has been possible to maintain for prolonged periods a strict supervision of daily life and habits fully equal to that observed in any well-regulated sanatorium. A suitable régime has been quite as closely adhered to here as is possible in the latter institutions, but a tremendous handicap has been experienced from the advanced nature of the cases as a class. A very large number of the list, however, despite extensive infection and doubtful or grave prognosis, I have not been permitted to observe under the best conditions of life or management on account of peculiarity of temperament, habits of dissipation, domestic relations and financial distress. Many have been compelled to practise the strictest economy, others to work daily. Some

¹ Read before the American Climatological Association, at Niagara Falls, June 5, 1901.

¹ "Observations on Pulmonary Tuberculosis in Colorado," Boston Medical and Surgical Journal, September 16, 1897.

have been burdened with family responsibilities and still others have indulged in the most reckless dissipation. It is apparent that this series as a whole comprises an exceedingly heterogeneous class and differs widely from the selected cases representative of sanatorium results. The cases have been conscientiously recorded and the computation of the following statistics has been conducted personally and with as much care and pains as possible. With reference to results obtained I have made two broad classifications, *i. e.*, those who have shown improvement in Colorado and those who have grown worse or died. By improvement I refer to a material lessening of the activity of the tuberculous process as disclosed by physical signs, diminution of cough and expectoration, also of pulse and temperature, with increase of appetite, digestion and weight. It is hardly necessary here to further classify the various stages of arrest. I am frank to admit that I am reporting as improved several who are now dead, but had exhibited a progressive and material gain until suddenly overcome by intercurrent disease, accident or other extraneous and direct causes.

On the other hand several are reported as not improved whose loss following an initial gain is easily attributed to a return East, resumption of work, disobedience of instructions or other indiscretions. In a work of this kind it is recognized that everything depends upon the integrity and authenticity of reports and I have thus endeavored as far as possible to eliminate sources of error.

Number of cases improved.....618

Number grown worse or dead.....284

Percentage of cases improved.....68.5

Generally speaking over two-thirds of the cases coming to Colorado, independent of the question of hemorrhage, but in all stages of advanced infection, may be expected to gain. This is certainly a very large proportion in view of the indiscriminate character of the cases, but furnishes a basis from which to draw further conclusions relative to hemorrhage.

Four hundred and fifty-seven cases are found to have had a hemorrhage sometime during the course of the disease; of these 308, or 67.8 per cent., are reported as improved. It then appears that about one-half of the entire number are hemorrhagic cases, and approximately the same proportion have improved in Colorado as the non-hemorrhagic, each class having about the same percentage of improvement as the entire list. This comparison in itself fails to indicate any specific influence of the climate upon hemorrhage cases in general.

Much of interest and value attaches to the time of hemorrhage relative to residence in Colorado. One hundred and seventy-five cases present the history of hemorrhage as the first symptom distinctly referable to the disease or as supervening immediately upon appearance of cough and beginning loss of weight. Thus about twenty per cent. of all the cases of consumption are found

to experience a hemorrhagic onset of the affection. In these the bleeding almost necessarily took place before the development of any very extensive destructive change in the lung. These cases have usually sought climatic relief early and it is in precisely such conditions that an equalizing of the circulation by high altitude should be attended by the best results. It is not surprising, therefore, to find that 127, or over 72 per cent., have done well.

Three hundred and eighty-six, or over 82 per cent., of the hemorrhage cases occurred before arrival in the State, including those with hemorrhagic onset. Of these 253 are reported as improved, establishing a percentage of 65½, which is quite up to previous standards.

Of the 386 with hemorrhage before arrival only 97, or 1 in 4, have suffered subsequent recurrence in Colorado. Among those who did experience a recurrence, but 59 are found to have done well, effecting a percentage of 60. On the other hand, out of 289 with previous hemorrhage and no recurrence 201, or 70 per cent., have shown improvement.

The logical deduction is that among the comparatively small number who do have a recurrence in Colorado of their previous hemorrhage, the chances for recovery are somewhat below the average, while those who do not experience such a return are correspondingly favored with better than average prospects.

It must be remembered that among those with previous hemorrhage and subsequent recurrence, many are included who had a distinct hemorrhagic onset and, although without extensive destruction of lung tissue, had experienced nevertheless a considerable circulatory disturbance from slight causes and who might well be expected early upon arrival, with the usual nervous temperament and erethetic habit common to such cases, to suffer a temporary return.

It is further of interest to note that of the ninety-seven recurrences thirty-four were in individuals who had experienced a hemorrhage within two or three weeks before arrival and in whom it is reasonable to suppose the direct results had not been fully overcome. In fact nearly half of those had their hemorrhage on the train or at the time of starting. Twenty-two of the recurrent hemorrhages in Colorado were in these people in whom the bleeding took place immediately before arrival and the recurrence within a very few days thereafter. It is obvious that such cases should not be embraced among hemorrhages in Colorado, as the specific cause was put in operation before arrival. Should these be excluded, and rightly so, the percentage of recurrences in Colorado would be materially diminished.

On the other hand 47 cases are found to have bled more or less profusely, and often repeatedly so, within one or two weeks before arrival, yet have never suffered a return since residing in the higher altitude.

Seventy-one experienced their first hemorrhage

in Colorado. Of these 33, or 46.4 per cent., have done well. An explanation of the small percentage of improvement is found in the fact that 40 of these were associated with very extensive and advanced infection, such conditions being present as would be likely to occasion hemorrhage anywhere. Thirty-one took place in the midst of a general gain, but in these without exception a distinct external cause could be assigned, and usually improvement was later continued.

Taken altogether, including the initial and the recurrent hemorrhages, 168 have bled in Colorado, 68 very shortly after arrival usually preceded by others immediately before coming. Of the remaining 100 cases 48 are found to have occurred as a result of accident or great indiscretion. The great majority of the balance, 52, took place in the midst of a general decline associated with more or less extensive cavity formation, syphilis or kidney disease, entailing a poor prognosis in any locality.

Of the 168 cases there were 58 easily recognized cavities, nearly one-third of the whole number arriving as advanced cases and usually with a history of a previous attack.

The character of the hemorrhage has been severe and copious in 65 instances, moderate in 103. As a general rule, they are stated to have been considerably more severe and harder to control than any previous attack at or near sea level. Four have been instantly fatal. In 13 death has resulted in a very few days. Twenty-one have survived but one or two weeks. The remainder rallied sufficiently to continue the struggle, only finally in some instances to succumb as a remote result of the loss entailed by the hemorrhage. Many have suffered no permanent ill effects, often rallying from the very alarming attacks and some have exhibited most remarkable improvement following it. Of the latter class fourteen are conspicuous examples.

My conclusions are:

1. That hemorrhage by itself, save with few exceptions, furnishes no criterion upon which to base a choice of climate, the indications for high altitude in uncomplicated and in not too far advanced cases being highly imperative independent of this single manifestation.

2. That an exceedingly small proportion of recurrences may be expected in Colorado, although not necessarily reflecting accurately the degree of ultimate improvement secured.

3. That recurrences are more likely to result, and that quickly, in those cases with hemorrhage immediately preceding arrival, and hence the wisdom of a short delay following the hemorrhage before leaving home and unusual precautions as regards rest upon arrival.

4. That primary hemorrhages are comparatively rare in Colorado and usually take place incident to a rapid progressive destructive change in cases already with hopeless prognosis, or as a natural result of some external assignable cause, which under proper régime could be avoided.

5. That hemorrhage, while less likely to occur

in Colorado than at sea level, is nevertheless, as a general rule, more severe and associated with greater shock.

6. That the avoidance of hemorrhage, particularly in the early months of Colorado life, demands a most rigid compliance with detailed instructions.

THE TUBERCULOSIS QUESTION.*

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AN adequate consideration of the present status of the tuberculosis question is not to be thought of in the limits of a paper as condensed and superficial as my portion of time allows, and, although the subject has been exhaustively handled by more capable pens than mine, it has seemed to me that there are some points in regard to this great scourge of humanity that cannot be too often repeated or too forcibly impressed on our minds. Even at the present day the laity, and too often the profession, at the dreaded name of consumption are prone to fold their hands and wait for the end, or to perfunctorily commence the administration of some time-(dis)honored remedies and then resign themselves to the will of heaven.

It is fair to assume that to-day probably no one questions the fact that tuberculosis is acquired by the entrance into the organism of the specific germ, which may take place by ingestion, inhalation and inoculation, and probably in this order of frequency. Direct transmission of tuberculosis from parent to offspring has been demonstrated in some 18 instances, but it seems scarcely likely that it occurs sufficiently often to be of practical importance to us.

Bacilli have been found in seminal fluid in several instances, and Goldschmidt has injected weak suspensions of the germ into the vagina of a rabbit immediately after coitus and shortly after a litter had been dropped. On the sixth day, before the embryo had become attached to the uterine wall, more than 500 sections were made of the uterus and embryo. The bacilli were found in every instance inside the cells of the embryo and none were discovered in the uterus or vagina. This is, to say the least, suggestive.

Most cases of direct transmission have been from the maternal side. Armanni succeeded in infecting a guinea-pig with typical tuberculosis by inoculation with the organs of a stillborn child of a tuberculous mother. Lehmann reports the case of an infant of a tuberculous woman dying four days after birth with tubercles containing bacilli in the spleen, lungs and liver. Tuberculosis of the placenta has been studied by Schmorl and Kockel. In three cases observed, bacilli were found in the placenta, but in only one of them in the organs of the fetus. Bar and Renon demonstrated bacilli in the umbilical veins of children born of tuberculous mothers.

* Read before the Associated Physicians of Long Island, Sag Harbor, L. I., June 15, 1901.

Roger and Garnier have observed bacilli in the milk of a phthisical nursing woman. Animals injected with it died of general tuberculosis. Her child, after nursing only two days, died in six weeks with tubercles in the liver, spleen, kidneys and mesenteric glands. There was no appreciable lesion of the breasts.

There has been a great diversity of opinion as to the exact influence of heredity in relation to the development of tuberculosis. Much importance has always attached to the transmission from parent to offspring of predisposition to tuberculous disease. To quote Billings: "In most of the so-called hereditary diseases, that which is transmitted from parent to child is not the disease itself nor its direct specific cause, but some peculiarity of tissues or organs which in the course of development, either makes the person peculiarly susceptible to causes of disease acting from without, or produces disorder itself by excess or defect of structure or function of some particular part. In scrofula and in consumption and other forms of tuberculosis, the specific germ is very rarely, if ever, transmitted, inheritance giving only a special susceptibility to its action."

In an editorial in the *Journal of the American Medical Association*, February 16, 1901, the following statement is made: "The English colony in Madeira was composed almost entirely of persons with tuberculosis, seeking the benefit of its climate. It has numbered about 600 souls, and yet during the entire nineteenth century, only one of the descendants has died of pulmonary tuberculosis, possibly acquired during a residence of several years abroad."

On the other hand, the statistics of the Mutual Life Insurance Company of New York indicate an increased liability to phthisis, where there is a family history of tuberculosis, which may be estimated at 30 per cent., and Squire's researches give practically the same results.

Tuberculosis has been acquired by inoculation in a variety of ways, by tattooing, by the bites of insects, by ritual circumcision, by coitus, by handling infected clothing and utensils from tuberculous patients and by other forms of contact with them. Tuberculosis of the cervical glands has been caused by infection through carious teeth.

As to the rôle of the tonsils, faucial and pharyngeal, as foci of infection, there is great uncertainty. Many authors claim to have seen latent or larval tuberculosis of these organs many times, while other equally careful observers deny their assertions. Goodale found in some experiments that methyl blue rubbed into the crypts of the tonsils was absorbed and carried into the deeper structures, as evidenced by microscopical examination after removal. Wright has recently made some investigations which corroborate these findings, but, curiously enough, in a few instances he found that while these structures can be penetrated readily by inorganic substances, the cocci which were numerous in the crypts could never

be found below the mucous membrane. This certainly appears to demonstrate the innate resistance of living tissue to pathogenic germs.

In the matter of infection by inhalation, we have been taught to dread sputum which has been dried and disseminated as dust, but that there is palpable danger in too intimate contact with tuberculous patients, the researches of Flügge, Goldie and others have shown. Plates held before the mouths of patients while coughing, sneezing and speaking have shown the bacillus in notable numbers and they have also remained suspended in the air for considerable time.

The method of infection which is alone capable of adequately explaining all the phenomena is that of ingestion—perhaps, in some cases, a mixture of inhalation and ingestion. A current of air laden with solid particles will naturally deposit them on the first surface upon which it impinges, particularly if that surface happens to be moist. As few people breathe continuously through their noses, a large proportion of the matters suspended in the inspired air is naturally deposited on the posterior wall of the pharynx and thence inevitably carried downward by the act of swallowing. Under normal conditions, the gastric juice has decided bactericidal power, but may not the gastric disturbances which almost invariably antedate a tuberculosis furnish the opportunity for the bacillus to enter the system by impairing the protective capacity of the stomach secretions?

Once having entered the intestines, having been absorbed by the lacteals and conveyed to the thoracic duct, the bacillus is easily disseminated to all parts of the body, and surely all the clinical phenomena of bone, joint, meningeal and visceral tuberculosis find here a logical and satisfactory explanation which is possessed by no other mode of infection hitherto suggested. On this basis it is easy to comprehend how infected foodstuffs may be sources of the gravest peril. The warning is obvious of the risk run by the use of food products which are displayed on the streets of our cities, exposed to the bacillus-laden dust, particularly those which are destined to be eaten uncooked, as fruits and green vegetables. Of late there has been some doubt expressed as to whether the ingestion of the meat from tuberculous animals is really as dangerous as we have supposed. It is claimed that the ordinary processes of cooking render it fairly safe—much more so than raw milk. The comparative immunity of the Hebrew race is said, however, to be largely due to the rigid inspection of the meat used by them. After careful preparation good food is probably often spoiled by contamination by flies which have been in contact with tuberculous excreta.

The sum of our knowledge relative to the antecedent causes of phthisis now seems to be that, given the favorable soil, however produced, and the proper exposure, tuberculosis will result. Precisely what the proper soil is must remain largely a matter of speculation. That a predisposition is

often inherited is unquestionable; that it is, perhaps, as frequently acquired is equally so.

Robin and Binet¹ found in 1,300 tests of the chemistry of respiration in 392 persons, that in all but 8 per cent. of the 162 tuberculous patients included, the exchanges of gases in respiration were far more active than in healthy persons. The results of their researches are tabulated and the averages show that in chronic tuberculosis the carbon dioxide exhaled per minute and per kilogram of the body weight is in women 86 per cent. more than in normal conditions, and in men, 64 per cent. The total oxygen consumed increases in women by 100.5 per cent. and in men by 70 per cent. The oxygen not used in producing carbon dioxide and which is absorbed by the tissues increases in women by 162.8 per cent., and in men by 94.8 per cent. The lung ventilation increases in women by 110 per cent. and in men by 80.5 per cent. As the disease progresses and the lung capacity and the proportion of gases exchanged diminish, the ventilation increases in proportion and thus the excessive activity of the exchanges is maintained to the very last. As the disease yields to treatment and the patient is recovering, this peculiar relationship becomes less and less pronounced. Their researches have extended over seven years and they have studied the respiratory chemistry of forty other diseases, in none of which are these phenomena found in anything like the same degree. They divide the descendants of consumptives into two groups, *i. e.*, those in whom the respiratory exchanges are normal and those in whom they are exaggerated, the former escape tuberculous infection, but the latter are predisposed to the disease. In arthritis, on the contrary, the exchanges are below the normal, which suggests an explanation for the known antagonism between the conditions.

There has been a great deal of aimless speculation and eminently unscientific writing about the pretuberculous state. It seems to me that all of us who have not tuberculosis may be said to be in the pretuberculous state. I fail, however, to see in what the prodromal stage of phthisis differs from that of any other debilitating illness before the characteristic symptoms have appeared. In order to take advantage of every possible chance that our patient may have, it is of course imperative that we should recognize the disease at the earliest possible moment. We have been prone to assume that the absence of the bacilli from the sputum relieved us from any further responsibility, but that this does not necessarily imply a healthy condition of the respiratory tract is evidenced by the fact that in 408 indubitable cases of early tuberculosis Turban failed to find the bacilli in 59.8 per cent., so that in the early stages we are little better off for a decisive sign than before Koch's discovery.

Another condition adverse to early diagnosis is that we rarely have the opportunity of examining our patient at the very inception of his trouble. The onset is so insidious that people are apt to pay very little attention to the slight feel-

ing of debility they experience, and when at last they think it worth while to consult us the evidences of trouble are widespread and much valuable time has been lost.

The administration of tuberculin in the human subject for diagnostic purposes seems to me to be indefensible from any point of view, although I realize that it is a routine procedure with many capable and conscientious men. In a case in which there is a reasonable doubt, is it not better to temporize, at the same time caring for the patient, than to run the risk which, though remote, is none the less real, of adding a firebrand to the latent spark of disease and destroying all his chances? This has happened on more than one occasion. In fact the tuberculin reaction is not unimpeachable as regards infallibility. It occurs with some regularity in syphilitics. Fuerst² reports an instance in a hysterical patient in whom injection of tuberculin was followed by a typical reaction, but, strange to say, the same phenomenon occurred later after an injection of distilled water and again after the insertion of an empty hypodermic needle.

The use of the various serums seems to be entirely unreliable so that at the beginning of the twentieth century our main reliance must still be on the clinical history and the physical signs.

Aspiration of the lung has been recommended in doubtful suspected cases, where there are no bacilli in the sputum. The value of our examination will depend very much on the care with which it is made and a judicial appreciation of the weight of evidence.

In the routine examination of patients in whom there is any suspicion of even a tendency to tuberculosis, it is well to commence with a careful consideration of the personal and family history. If heredity be not an important factor, the occurrence of other cases of tuberculosis among a patient's associates (or family) is suggestive of opportunities of exposure. All the possible morbid influences which may be operative in the given case should be sought out and their effect estimated. It has been conclusively shown that density of population bears a direct relation to the development of tuberculosis only second to close confinement, so that we learn that a large proportion of prisoners die of tuberculous diseases—four times as many as people who are at liberty. Practically all cloistered nuns meet the same fate and the mortality from phthisis is terrific among those who spend their lives in laborious indoor occupations. Penury also exerts a powerful influence by depriving the unfortunate poor, not only of the comforts, but of the bare necessities of life. Some statistics compiled in Hamburg show that tuberculosis is only one-half as common in persons whose income exceeds \$500 a year as in those who are compelled to live on less than that amount.

As to the actual symptoms on which we may place reliance in reaching a conclusion, I think they may be enumerated in the following order: An insidious perversion of general nutrition, with

varying degrees of gastric and intestinal disturbance, which notwithstanding all the refinements of the analyses of the digestive secretions and products, does not seem to have any distinctive characteristics. Klebs³ attributes these disturbances to atrophy of the thyroid gland and suggests thyroid medication as a remedy. Directly consequent on nutritive disturbances are impairment of muscular vigor and resistance to fatigue, with progressive chloranemia and loss of weight.

Several writers have attached considerable importance to persistent pupillary dilatation as suggestive of a possible future development of tuberculosis.

A persistent tachycardia which can be laid to no other cause is, I believe, an indication of commencing trouble in many cases. In my opinion and experience, one of the weightiest and most universally observable symptoms, even in very early stages, is some abnormal variation of the temperature. That in itself, if only of a very slight range, without other discoverable cause, would lead me to decidedly more than suspect a tuberculous focus somewhere. A variation of not over a degree, particularly with a subnormal morning temperature even when there is no afternoon rise, is to my mind exceedingly significant, and when in addition there is even a slight elevation after moderate exercise I should consider the diagnosis as practically made. These peculiarities of temperature may sometimes be made out during menstruation when they are not discoverable during the intervals.

I am inclined to question the possibility of there being afebrile cases of tuberculosis; they are at least anomalous and if frequent records were systematically taken would, I believe, almost invariably show material fluctuations. I have at present under my care a patient far advanced in the third stage, whose temperature has never been above normal when I have had the chance of taking it, but I do not believe that such a thing occurs more than once in a man's experience. When there is a persisting abnormal temperature range and there may be a question between tuberculosis and some form of malaria, external applications of guaiacol will sometimes clear up the doubt by relieving the fever of tuberculosis, or leaving that of malaria uninfluenced.

Inspection of the thorax in the early stages is of little value, for ordinarily the changes in external configuration are to be attributed to rather extensive internal changes. On the other hand, a thorax which is below the proper proportionate size and of bad shape, with an unnaturally small vital capacity, is a strong presumptive indication that its possessor is more than usually liable to tuberculosis. Mensuration in itself is of no special help in early diagnosis.

The first deposits of tubercle are ordinarily about or in the walls of the smaller bronchioles and these deposits may be localized or pretty widely scattered. At first they are generally so unextensive as not to influence the percussion note to any appreciable degree. It has seemed to

me that I have experienced often a sensation of resistance to the percussing finger, long before I could appreciate any special change in the quality or pitch of the note elicited. The signs made out by auscultation may be slight, but in many instances, if discoverable at all, they are enormously important. The phenomenon of so-called cog-wheel respiration, if found in successive examinations in the same locality, is more than suggestive and the same may be said of any circumscribed alteration in intensity, pitch or rhythm of the respiratory murmur which is independent of other recognizable cause. Any evidence of a catarrhal condition of the bronchioles which is not obviously transitory is diagnostic and with a little care the signs may be elicited when even on a first careful examination they may seem to be absent.

The ratio of basal to apical involvement at the beginning of a tuberculosis is 1 to 500, and therefore our keenest attention should be directed to the apices, far more often to the right than to the left. Frequently auscultation of the anterior surface will be entirely negative and yet in the supraspinous fossa and along the inner border of the scapula we will find what we are in search of. Very often a sharp cough followed, as it always is, by a quick, deep inspiration, will reveal a few fine moist râles which are inaudible on ordinary deep breathing, and the character of the succeeding expiratory sound will also declare itself. In some cases small doses of iodide, 3 to 5 grains t. i. d., for a few days, have often helped to demonstrate conditions, which have been undiscoverable before. Not seldom during menstruation physical signs will become apparent which are absent or indistinguishable during the intervals. Unnaturally clear transmission of the heart sounds without consolidation is often encountered and is suggestive.

Skiagraphy has lent and will lend to a much greater extent in the future, as we become more expert in its application, strong corroborative testimony in doubtful cases; and I believe it will at all events lessen the number of reported primary laryngeal involvements which some of our clinical experts are fond of presenting. Occasionally laryngoscopy will reveal indubitable trouble when other signs are wanting. The anemia of a tuberculous larynx and the peculiar character of the changes in its tissues are unmistakable to the experienced eye even if they constitute the whole obtainable evidence of disease, but I am persuaded that in these cases, if our senses were sufficiently acute, we would almost invariably discover other foci of infection.

As to the symptoms of cough and hemoptysis, we may consider them of importance only when we can assure ourselves by minute examination of the upper air-passages, that they are not of local origin. To recapitulate, we are justified in assuming tuberculosis on the evidence of otherwise unexplained gastric and nutritive disturbances, with persistent tachycardia and fluctuations of temperature, although slight, especially with an increase after exertion—particularly if

the personal history gives a coloring of probability. We may be absolutely certain of our diagnosis if, in addition, the slight physical signs I have mentioned are discoverable, and notwithstanding a history of cough and possibly hemoptysis, we may presumptively discard the probability of tuberculosis if these phenomena are absent.

Cases of basal origin are usually the result of pleural infection. In fact some observers contend that almost invariably pleuritis with effusion, if not traumatic, are tuberculous in character, whether serous or purulent. Any intrapleural effusion which is tardy in clearing up excites our apprehension and surgical intervention should not be delayed unduly. Here microscopical and bacteriological examination of the fluid is of paramount importance.

The prognosis of pulmonary tuberculosis is perhaps the most uncertain matter in the domain of medicine. The site of the original lesion may exert some influence on the course of the disease. Primary basilar involvement is considered much more serious than apical—a left apex lesion seems more apt to clear up than a right. Variations in the morphology of the bacilli and in their tinctorial reactions are said to be of prognostic value, but such distinctions are scarcely of use to us as clinicians practically, as they imply a degree of expertness in laboratory technic of which few men in active practice are possessed.

Michaelis* contributes an interesting article on the diagnostic and prognostic value of the diazo-reaction. Its persistent recurrence indicates tuberculosis and its presence in ascites or meningitis points to the tuberculous character of the lesion. It occurs independent of fever, of the number of bacilli or of the amount of the sputum. It is most common in advanced cases and is an unfavorable prognostic; when present, death can usually be expected within six months. Of 111 cases which gave the reaction, 80 died within that time; of 56 where it was absent 3 died. Early hemoptysis is said to be a favorable prognostic, although when accompanied by a pronounced pyrexial movement it is bad.

To attempt merely an enumeration of the various remedies which have been tried in the treatment of tuberculosis would carry me far beyond the time allotted for this paper. It is a sad commentary on our therapeutic knowledge and attainments that to-day the most sanguine clinician claims but a very little larger proportion of cures of tuberculosis from the sum of our modern achievements than the pathologist told us years ago that he found on the autopsy-table of tuberculous lesions apparently spontaneously healed.

Baldwin* reports the results of treatment in Trudeau's sanatorium—where the results have been as gratifying as anywhere in this country—1,200 patients were admitted, 900 advanced and 300 incipient cases; 1,176 were discharged, 300 of them absolutely without symptoms of disease. In other words, 68 per cent. of incipient and 11 per cent. of advanced cases were discharged cured. According to various observers, healed

lesions have been observed in from 20 to 50 per cent. of all autopsies.

I think I am justified in saying that no form of treatment, no drug that we have ever used, have specifically affected the course of pulmonary tuberculosis in the slightest degree. Osler says: "Arrest or cure of tuberculosis is entirely a question of nutrition and the object of any treatment is so to improve the patient's general condition that he may be able to withstand the influence of the morbid agent, etc."

Without particularizing, we can state axiomatically that the various attempts at serumtherapy have been up to date absolutely inefficacious, and the same may be said of any and all medicinal preparations of which I have any knowledge—indeed, there are some of the latter which I believe have been productive of much harm. Nevertheless the outlook was never so encouraging for the future, nor the probability so strong that eventually this great curse of the human race will be vanquished. The advocacy and ultimate discarding of the various forms of medication are in the right line of investigation and perhaps ultimately by a process of exclusion, we may have left in our armamentarium some few agents of value, when the chaff shall all have been rejected.

The surest way to cure tuberculosis is to prevent it, and this is largely within the province of those concerned in caring for the public health. That the hope of stamping out tuberculosis is not Utopian, is evidenced by the decrease in the death-rate of cities where modern sanitary methods prevail. Thus, in Berlin the deaths have decreased from 3.42 per thousand in 1883 to 2.30 per thousand in 1894; in London from 2.86 per thousand in 1851-60 to 1.83 per thousand in 1895, and similar statistics might be multiplied *ad infinitum*.

The point is that it has been demonstrably possible to diminish the mortality over one-third in the last twenty years and that, too, in many instances, almost against the will of the public, who, especially in our country, resent any and all interference with their freedom of action, even when it tends to their own destruction. I wish to remark here that I believe future results will come mainly through the efforts of such beneficent organizations as the Pennsylvania Society for Tuberculosis and similar associations, whose work in instructing the lay mind as to the reason and reasonableness of sanitary recommendations has been productive of so much good already.

But to return to the domain of the practitioner, there are some matters of personal hygiene and prophylaxis as applied to his individual patients that he can not ignore without being distinctly culpable. Ward* made observations in his own house for a period of three weeks during November. He found the mean relative humidity of the inside air was 30 per cent. with an average temperature of 69° F., while the outside temperature was 36° F. with a mean relative humidity of 71 per cent. This shows our average inside air to be drier than that of most desert climates and indicates the extremes to which, as a result of the

refinements of modern luxury, our organisms are subjected. Can we be expected to preserve our powers of resistance under such conditions? Another factor is the utterly irrational way in which most people dress. The time is ripe to start a crusade, for one thing, against the all-wool-under-clothing delusion with its potentialities for harm, and endeavor to inculcate some ideas of proper clothing in the lay mind.

Again I believe it to be a most important thing in any given case, whether predisposed to tuberculosis or not, that the patient should be assured of the protection given by an approximately normal condition of the upper respiratory tract. While catarrhal conditions of the nose and nasopharynx never directly "run into consumption," as the laity express it, they assuredly do increase the liability to it. Particularly is this the fact in regard to the various obstructive lesions which induce the necessity of mouth-breathing and especially the lymphoid hypertrophies so often encountered in children. Aside from the discomforts induced locally by these growths, their effect in producing general nutritive disturbances is enormous, which can easily be demonstrated by removal of hypertrophied tonsils and adenoids, in many cases the improvement in general health being so great that the patient is scarcely recognizable after a few weeks. The same thing applies to other forms of nasal deformity causing obstruction. Aside from their general pernicious influence, a specific danger exists in the inviting portals of entry offered to pathogenic germs, particularly to those of tuberculosis, by the enlarged and diseased masses of lymphoid tissue. I doubt if they are often the seat of primary tuberculous lesions, but the researches of Goodale, Packard and others leave little doubt that they have been responsible for many infections of the general system.

In the management of the developed disease there are a few points of which I would like to speak, naturally first of climate. The consensus of opinion of the foremost phthisiologists of today is that the popular ideas of climatotherapeutics are based on entirely erroneous foundations. In other words, there is no specific virtue in any special health-resort and the theory that altitude has any special influence is at last fortunately practically exploded. The indiscriminate prescription of climatic change without due regard to the exigencies of the individual case has probably done more harm, shortened more lives and destroyed more possible chances of recovery among consumptives than ignorance or faulty application of any other remedy that has ever been employed in the treatment of phthisis. In this connection a word about ozone of which we hear so much in connection with the beneficial effects of health-resorts. It is present in atmospheric air in the proportion of one part to 700,000. "The value of its presence would appear to be more an evidence of atmospheric purity than as a disinfectant, as it is absent where injurious decomposition is going on." Thompson as a result of his experi-

ments on the action of ozone and its compounds reaches the conclusions that "ozone is of no value to the tissues, whether inhaled or drunk in fluid preparations, and it may be exceedingly harmful. Ransome and Foulerton⁷ have found that ozone in concentrated form had little or no effect on the vitality or virulence of bacteria.

The results of the possibilities of continuous out-door life in the treatment of tuberculosis have been a revelation to us and by them the absurd claims of enthusiasts and self-interested climatologists have been sufficiently answered. While sanatorium life is perhaps the desideratum for most consumptives, there is no reason why practically the same results cannot be reached in many instances without sending them from home, granted that their surroundings are fairly decent. If carried out systematically and conscientiously, I believe this method is applicable to almost all patients and will give them the greatest proportion of chances, but with the present enthusiasm there is certainly a danger that it may be overdone and to be most effective it must be begun in the early stages. It will only discredit this method to apply it indiscriminately to all patients irrespective of each one's special environment and peculiarities. I certainly believe that it offers to us more promise than any plan which has preceded it. I must take this occasion to add my word of praise and indebtedness to Dr. S. A. Knopf for his masterly articles on this phase of the tuberculosis question.

We are all much less sanguine as to the future of serumtherapy in tuberculosis than we were some years ago. There are practically insurmountable intrinsic difficulties in the way of treating specifically such a disease as tuberculosis, for, after all, that which kills the patient is not ordinarily the tuberculous disease itself, but the concomitant secondary infections. According to Petruschky's observations in Koch's Institute,⁸ tuberculin is of no value in cases of phthisis with secondary infections—and we practically never see them without—and Kleb's preparations have had entirely negative results.

Harper⁹ writes a suggestive article on the administration of urea to tuberculous patients. He calls attention to the fact that carnivora rarely become tuberculous and that gout, rheumatism and allied diseases seem to be really antagonistic to the development of tuberculosis. He failed to obtain growths of the bacillus in meat-broth containing urea, but in his control tubes where it was absent, the germs grew rapidly. He proposes to treat tuberculous patients with a liberal meat diet and with the exhibition of additional urea. So many observers have dwelt on this antagonism between tuberculosis and the uric-acid conditions that there must be some reason for their ideas, and I think most of us must have seen instances in our own experience which seemed to corroborate the impression.

In the symptomatic treatment of tuberculosis there are a few routine procedures against which I desire to enter a formal protest: First, against

the use of cod-liver oil. This may sound heretical, but I am convinced of its truth. It acts as an alterative by changing decidedly the oxidation processes of the system. But, unfortunately, its alterative effects are in the wrong direction, decreasing the perfection of the proteid oxidation and often depriving the unfortunate patients of the single chance of recovery they might otherwise have retained. The free ingestion of it rapidly decreases the urea in the urine and increases the incomplete or imperfect products of nitrogenous waste. The more perfectly it is emulsified, the more detrimental it becomes, because thus it is more palatable and is less likely to produce digestive disturbance and to be therefore refused entrance to the system. The emulsion also favors the absorption of immoderate quantities, thus exhausting the oxygen supply and rendering the suboxidation of the proteid molecule, with all its ill-effect, doubly certain. It disturbs digestion and prevents the utilization of other and more valuable forms of foodstuffs.¹⁰ Second, against the indiscriminate use of opium derivatives and cough syrups, which upset the patient's digestion and nutrition and thus work him incalculable harm. My personal experience with heroin has been uniformly disappointing. Third, against the treatment of the septic fever by the coal-tar antipyretics.

For the relief of cough, for freeing the lungs from accumulated secretions and for controlling the symptoms of pus absorption, we have in intratracheal medication by means of the laryngeal syringe a means of treatment as far superior to gastric medication in practice as it is in theory and whose technic is entirely within the grasp of any man who desires to acquire it. No cumbersome apparatus is required, it is less unpleasant to the patient than the frequent administration of drugs and it does without fail what ordinary medication often misses—it relieves the symptoms we desire to mitigate. But it is in the treatment of the horrible lesions of laryngeal tuberculosis that the laryngeal syringe finds its widest field of usefulness, and here the applications of orthoform, as used by Freudenthal, are of incalculable benefit to the sufferer and often obviate the necessity for the more radical treatment by surgical means, which notwithstanding enthusiastic advocates, proves often absolutely disappointing if not actually injurious.

To those who have the time and facilities to command its aid there is nothing that will give the results, aside from the open-air treatment, and that can be obtained with the pneumatic cabinet. If these two agents can be employed in conjunction, I believe that almost any case can be benefited if seen sufficiently early. Antiseptic inhalations are of great additional utility and while, of course, none of these things have the least specific effect on the bacillus, they do influence materially and definitely the course of pulmonary phthisis as we see it clinically. After daily employment of these methods for more than thirteen years I am convinced that these claims are capa-

ble of demonstration and that therefore the cabinet and antiseptic inhalations constitute to-day the most rational and effectual methods of mechanical and medicinal treatment of tuberculosis at our command and when fortified by what is more important than all else—open air and good food—they are as nearly a specific as anything can be.

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180 Clinton Street.

THE PREVALENCE AND TREATMENT OF TUBERCULOSIS AMONG THE POOR.¹

BY H. L. FANCHER, M.D.,
OF ISOLINE, TENN.

EVERY year since 1882, when Koch announced the discovery of the tubercle bacillus, tuberculosis has excited an increasing interest. For several years after this wonderful discovery medical men looked forward to the time when Koch or some of his contemporaries would discover a specific for this widely disseminated disease. In 1890 Koch's tuberculin was put upon the market and various specific nostrums and fumigations from the laboratories of the quacks were added. From that time to the present, we have seen some of our most energetic pathologists spending the best years of their lives searching for a cure and a preventative, but the tale remains to tell itself.

Still tuberculosis claims one death in seven. The pulmonary form alone claims in the Greater City of New York as its victims between eight and nine thousand annually, seventy-five per cent. of this number came from the tenement-houses, while only about ten per cent. came from the wealthy. From these statistics we may safely say that from eighty to ninety per cent. of the patients dying of tuberculosis in the City of New York came from the bread-earners. Statistics from other cities show a similar death-rate from this one cause. The City Fathers have become alarmed at these figures, and are preparing to care for their consumptive poor.

If correct statistics could be gotten from the rural districts of Tennessee, I am quite sure it would open the eyes of the most drowsy dreamer. The prevalence of tuberculosis on Cumberland Mountain is simply appalling. You can hardly find a person from the rural districts of the Cumberland Plateau whose family history is not darkened by this dread scourge of humanity. This statement would hardly seem credible when we think of the high altitude, the pure dry air, and the "pine forests liberating an extra amount of ozone," but if you were to go with me into the homes of those poor mountaineers, you would at

¹ Read before the Upper Cumberland Medical Society, at Cookeville, Tenn.

once see the plausibility of my statement. They are poorly fed and poorly clothed. They usually have large families and small houses; exposed to all the hardships that a poverty-stricken people are subject to, without anything like sanitation in and around their houses. Their drinking-water usually comes from a little surface spring, situated at the head of a hollow just below their house, which furnishes an outlet for the sewerage of all their premises.

In discussing the treatment of tuberculosis, I would like to quote to you and emphasize the words of Dr. S. A. Knopf of New York. In a paper published in the *MEDICAL NEWS* of March 9th he said: "Consumption is an eminently preventable and curable disease. It is curable in nearly all climes. All that is needed for the treatment of consumption is relatively good and pure air, good food and plenty of it, the best hygienic and sanitary conditions, and a willingness on the part of the patient to submit himself to the constant guidance of his physician. Consumption is not merely a medical, but also a social disease. Society must come to the aid of the physician. He alone cannot cope with this affliction. If society, if our wealthy citizens, if the many noble men and women, willing and able to help, could only know the life-history of some of these consumptive poor, they would realize what I mean by saying, consumption is a social disease, and they would see at once where their duties lie."

Most of the large cities have equipped special hospitals for their consumptive poor, and Texas and Alabama have purchased and equipped separate farms for their tuberculous convicts and claim that under this system the health of such convicts has improved so much that instead of being an expense, they are turning over to the State annually a handsome profit on the investment.

Massachusetts, New York, Pennsylvania and Michigan have, through their legislative bodies, built State sanatoria for the care of their consumptive poor.

Dr. Pryor of Buffalo said at the second annual meeting of the American Congress of Tuberculosis, held in New York, May 15, 1901, that 14,000 patients die in the State of New York every year of tuberculosis, and that seventy-four per cent. of these he believes might be saved if the correct diagnosis were made in the incipient stages and appropriate treatment instituted. The rich can go to private sanatoria, but the poor must die unless the State makes some provisions for them.

The poor throughout the rural districts of Tennessee need to be taught the lessons of hygiene and sanitation, and one of the best ways to do this is to get our State Legislature to help us build and equip one or two sanatoria, where selected cases may be given proper treatment and taught the lessons so needful to this class of people.

As Dr. Knopf said in the address previously mentioned, "A sanatorium similar to the one in

the Adirondack Mountains is not only a healing institution, but also a school of hygiene where the patients will learn from actual experience how to take care of their expectorations, how to protect others from infection and themselves from re-infection, what to do and what not to do in order to get well and remain well."

Until we can get these necessary sanatoria, we must take advantage of the best means at hand, and let every case be a law unto itself. Each system has its virtue, and we should adopt the true allopathic method of taking good from all sources. I think in a great many cases of pulmonary tuberculosis, and especially where only one lung is involved, Dr. Murphy's method of injecting nitrogen gas into the pleural cavity is an ideal treatment. It is a clinical fact proven by Drs. Murphy, Wood and others that when the lung is collapsed, hemorrhage stops, night-sweats occur less frequently, and the general conditions of the patient materially improve.

It has been known for some time that if pneumothorax develops in the course of pulmonary tuberculosis, it will greatly improve or cure the tuberculous area. Pleurisy or pneumonia occurring in the course of consumption will invariably benefit the tuberculous condition. Dr. Loomis correctly states that "these marked improvements are brought about by collapse and immobilization of the lung, that the lung is forced to rest, and rest checks the development of infection in new regions and yet does not interfere with the circulation. It enforces drainage of secondary deposits through the bronchi, approximates the walls of cavities and thus gradually empties them, diminishes the lymphatic circulation and favors the encapsulation and cicatrization of tuberculous areas."

As to the hydiatric treatment advanced by Dr. J. H. Kellogg of Battle Creek, Michigan, it is a very beneficial adjunct to any course pursued, and especially in those cases in which the eliminative powers are weakened.

Open air and sunshine are always necessary. A selected course of tonics is needed in most cases, but as no drug has any special control over the development of the disease, the medicament should be carefully chosen for each individual case.

As to the treatment of tuberculosis of the bowels, which is a very common affection on the Mountain, I have but little to offer. The general rules of hygiene which are applicable to the pulmonary form; nutrients, tonics and digesters are about all the means we have with which to combat this trouble. Alimentation is imperfect and nutrition greatly impaired.

Swimming Pool for Insane Ward.—A building 31x62 feet in size is to be erected at the Pennsylvania Hospital for the insane as a swimming pool for the woman's department. The building will cost \$18,000 and is one of the many improvements for bettering the condition of the insane for which this hospital has become justly famous.

THE CROWDING OF CONSUMPTIVES INTO THE MUNICIPAL GENERAL HOSPITALS.BY WILLIAM RIDGELY STONE, M.D.,
OF NEW YORK.

THE Board of Health of this city is making most praiseworthy efforts to check the spread of tuberculosis, but despite their meritorious work they have evidently overlooked one fruitful source of infection.

The municipal hospitals of New York are now crowded with cases of tuberculosis in various stages. Most of these patients are of the uneducated classes, totally oblivious of their condition and unable to understand that they are a menace to their fellow citizens.

In one of the wards of a municipal hospital having the capacity of twenty-eight beds, there are assigned more than forty patients. More than twenty of these patients have been shown to be tuberculous. In the other medical wards of the same institution there are from ten to twenty such patients. In spite of a most efficient corps of nurses and orderlies, it is impossible to make these unfortunate sick understand the necessity of complying with rules laid down for the prevention of the spread of this dread disease. They will not use the sputum-cups provided for them, but most often expectorate upon the floors of the wards, upon the bed-clothes or into the registers set into the floors. These latter places are their favorite cuspidors. The result of this carelessness is most evident. The sputum is quickly dried by the hot air and then blown into the air circulating about the wards, to be inhaled by all the other patients and attendants. To one at all familiar with the manner of the spread of this disease, the condition will seem criminal. The patients in the wards are all in a condition of lowered vitality and are thus ideal hosts for the invasion of the tubercle bacillus. That this is true, the following facts will easily show:

Case I.—A strong, hearty, once robust truckman was admitted to one of the medical wards last winter suffering from rheumatic fever. His chest was perfectly normal; there was not the slightest cough present. The rheumatic fever was quite intractable and the attack lasted about six weeks. After being out of bed for a while, he was about to be discharged from the hospital, when he was taken with a severe chill, headache, nausea and vomiting, and diarrhea. His temperature, pulse and respiration rose above normal, so that he was forced to go to bed. The following day he developed bronchitis and other symptoms which suggested typhoid or some such continued fever. A few days later his sputum was examined and the tubercle bacillus was found present in large numbers. In about six weeks he died. Autopsy revealed the cause of death to be general miliary tuberculosis. No other evidence of lung involvement could be discovered.

Case II.—Patient, male, between thirty and forty years of age. Admitted to medical wards

complaining of rheumatism in left ankle. Examination showed the case to be one of probable gonorrheal arthritis. Heart and lungs were normal. For four or five weeks the patient's ankle was treated by hot-air baths, with marked improvement. At this time he seemed to be in excellent general health, when one day he was taken with a severe chill, headache, nausea, and pain in the side. His temperature, pulse and respiration arose above normal. Physical examination showed consolidation of the left apex, and the case was thought to be one of lobar pneumonia. The temperature continued high and the crisis was awaited. At the end of two weeks no fall of temperature taking place, the sputum was repeatedly examined and at last the diagnosis of tuberculosis was confirmed by the presence of the tubercle bacillus. Six months later the case came to autopsy, showing tuberculous cavity formation and other such involvement.

Case III.—Child, nine months old. Mother was admitted to the hospital in the seventh or eighth month of pregnancy, complaining of rheumatism in her left knee. From an examination of the vaginal secretion, the probable diagnosis of gonorrheal arthritis was made. The examination of her thorax was negative. Various treatments were given her without relief of the arthritis. She came to term and was delivered of a large, healthy female child. After the period of her puerperium she was sent back to the medical wards, where she remained for six months. Finally, operation was deemed advisable and she was sent to the surgical wards. All this time her child seemed perfectly well. Shortly before the mother was operated upon, the child became fretful and irritable. It soon lapsed into a semi-conscious condition and then developed symptoms of tuberculous meningitis. In about a week's time the child died. Necropsy showed tuberculous meningitis and general miliary tuberculosis.

These three cases are reported to show the alarming conditions of affairs which exist in the very locality where one would least suspect it. The writer has witnessed nine such cases in his own personal experience and has been able to collect as many more. Besides the cases among the patients several female nurses and many male orderlies have during the last two years been forced to leave one of the largest public hospitals in this city, and, in fact, in this country, because of pulmonary tuberculosis contracted while on duty in the medical wards of the same institution. Furthermore, during the same period of time, two of the medical attendants have become infected by the tubercle bacillus.

Many of the tuberculous patients are perfectly able to be out of bed and about the hospital grounds, but, unfortunately, in the majority of instances they cannot be discharged, because they are destitute. They must be accommodated with beds, and inasmuch as there are other patients less able to sleep away from the overcrowded medical wards, the consumptives are sent

to sleep in the vacant beds of the surgical wards. Here there are cases recently operated upon or recovering from the debilitating effects of operations. These patients are subjected in their low state of vitality to the easy possibility of tuberculous infection, and such infection has taken place.

There can be no question as to the seriousness of placing tuberculous patients in general medical wards under such conditions. The city or community owes it to individuals that they be better taken care of. Many a poor patient suffering from disease can become a useful citizen. And even though the municipal Board of Charities hold poverty to be a crime, the punishment that they are meting out to these unfortunates is entirely too severe. It would seem that the ancient barbaric idea of the lethal chamber were once more to come into vogue. Should one deliberately place into the food of another the germs of typhoid, Asiatic cholera or what not, would he not be punished as a malefactor? Yet the municipal authorities place patients in hospital wards the air of which is pregnant with the germs of tuberculosis.

TUBERCULOUS OTITIS MEDIA, MASTOIDITIS AND MENINGITIS IN AN OTHERWISE APPARENTLY HEALTHY ADULT. BRIEF REPORT OF A CASE.¹

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TUBERCULOSIS, on account of the widespread interest which has been manifested for several years by the medical profession in the endeavor to check its ravages, the high mortality and the great importance of an early recognition, especially in those cases affecting the middle ear and its adnexa, make it of interest to us, not only as physicians, but as otologists. The case I have to report to this Society is of unusual interest, clearly exemplifying the error in diagnosis and treatment which is apt to be made in cases where mixed tuberculous and pyogenic infection is present.

In this case was it made especially difficult, from the fact that the patient was in deep stupor when seen, and my advice had to be given, based entirely upon the history and physical examination. On account of the findings and the apparent demand for immediate surgical interference, I doubt if I should have examined the secretions for bacilli had means been available, for nothing was found in the history or in my examination at that time which suggested to me the probability of a tuberculous process.

The following notes of the case, with the findings at the autopsy, will, I trust, be of interest:

W. H. W., male, adult, forty-five years of age, was seen by me in consultation on December 11, 1900, when the following history was obtained.

His mother and father have always been healthy; are still living at an advanced age. There are two brothers and one sister, who are living and healthy. The patient suffered from measles when a child. At the age of twenty-five years had typhoid fever; since then has enjoyed perfect health, attending to his business, that of a mechanic, regularly. About one year ago, without apparent cause and only the slightest suspicion of pain, a thin discharge made its appearance in the left ear which was given little thought and allowed to take care of itself. From time to time after this, at intervals of one or two months, he suffered attacks of pain in and around the ear, followed by an increased amount of discharge and relief from his symptoms. During these exacerbations there was sensitiveness to pressure and occasionally slight swelling about the ear, especially behind it. His family physician told me that up to the beginning of his last illness he had noticed little change in his physical condition. His present trouble began seven weeks prior to my seeing him, with what was supposed to be an attack of influenza; sore throat, nasal discharge, headache and temperature about 100° F. He was confined to his home for several days, after which he resumed work and was able to continue nearly two weeks, but during this time was not well, suffering from anorexia, occasional vomiting, persistent headache and general malaise. About this time he had one of his attacks of pain and sensitiveness around the left ear, which compelled him to remain in bed and the usual hot poultice was applied. In twenty-four hours there was an increased discharge of pus with complete relief of pain. Following this he gradually grew worse with exacerbations of pain and intervals of relief, loss of appetite, constant headache, an irregular temperature, gradual exhaustion, and for the last week, remained in a drowsy condition, but from which he could be aroused and would answer questions; this changing to a deep stupor twelve hours before I saw him.

Examination.—Patient was emaciated, face of an ashy gray color, pupils equally contracted and no paralysis detected. He could not be aroused from his stupor, but responded to a stimulus. Pulse 58, temperature 102° F., respiration 36. A slight swelling was observed behind the left ear over the mastoid. Pressure over this area elicited pain; shown by the patient's attempt to remove my hand. There was a small amount of foul-smelling pus in the external auditory canal, the membrana tympani almost completely destroyed and only the head of the malleus remained. The tympanic cavity was filled with granulation tissue and pus, with perceptible bulging of the postero-superior canal wall. No glandular enlargements were observed.

It seemed clearly evident that this patient was suffering from an intracranial involvement following a chronic otorrhea, and it was thought that cerebral abscess was the most probable diagnosis. He was sent to the hospital, prepared, and the following operation done the same afternoon.

¹ Read at the seventh annual meeting of the American Laryngological, Rhinological and Otolological Society.

The middle ear was curetted and granulation tissue removed, flushed out and the canal packed with iodoform gauze. The mastoid was opened and found completely excavated, the space being filled with granulation tissue and broken down caseating material. There was very little pus found and this was in the region of the antrum. The destruction of bone was widespread; the caries extending upward and forward into the root of the zygomatic process, forward to the middle ear; posteriorly into and between the tables of the occipital bone and inwardly destroying the wall of the sigmoid sinus and the inner table of the skull. All granulation tissue and carious bone was removed. This exposed the wall of the sigmoid sinus and meninges over an area about 1 inch by $\frac{3}{4}$ inch. These were very much thickened and everywhere studded with small typical miliary tubercles. There were several caseating patches on the wall of the sinus which was, however, still pervious. At this juncture the hopelessness of the case being recognized, the wound was cleansed, packed with iodoform gauze and a large antiseptic dressing applied. The patient died twelve hours later. At the postmortem examination the lungs, liver, spleen and kidneys were found free of tuberculous infection and the mesenteric glands not enlarged. Examination of the head was not allowed. Microscopical examination of scrapings from the middle ear and mastoid demonstrated the presence in abundance of tubercle bacilli and streptococci.

A very pertinent point, and one of the greatest importance in these cases, is that of etiology, for upon our correct estimate of the causal factor depends the ultimate result of treatment. In cases of mixed tuberculous and pyogenic infection in an otherwise apparently healthy adult, we are, I think, apt to be misled in the masking of the tuberculous by the suppurative process. Especially is this true if the patient is seen late in the disease.

The question which suggests itself to me in connection with this case as of greatest interest is, Was this a case of secondary tuberculous otitis media in which the primary focus was overlooked, or was it primary tuberculosis of the middle ear and mastoid with subsequent pyogenic infection?

In the light of recent investigation, tuberculous disease of the middle ear as a secondary involvement is not an infrequent occurrence. This view seems to have been accepted by most observers. On the other hand, the frequency of primary tuberculosis in this region is still in doubt. Milligan in a paper read before the Sixth International Otological Congress states: "In my experience primary tuberculous lesions of the middle ear and adjoining mastoid cells are comparatively common, especially among the children of the poorer classes." In a paper before the New York Medical Association in 1898, Oppenheimer takes the opposite view and says, "The primary form is rarely observed, and then, from the extreme difficulty of eliminating the presence of

tuberculous deposits in other portions of the economy, it becomes a matter of hesitancy to decide as to the diagnosis being essentially accurate." While we hesitate to accept either of these views as representing the weight of opinion, the evidence which we have been able to gain in reviewing the literature at our command, together with our clinical experience, does not bear out the views of Milligan, that primary tuberculosis of the middle ear is of comparatively common occurrence.

The observation and clinical experience of most observers go to show that it is comparatively infrequent, but does occur. Recognizing the difficulties in arriving at a correct diagnosis in this class of cases, it would seem that in the light of the clinical history, the findings at the time of operation, the microscopical findings and the subsequent postmortem examination, we had here to deal with a case of primary tuberculosis of the middle ear and mastoid. My only excuse for operating was an error in diagnosis, for the case was beyond help.

In conclusion, I will add that could we get these cases early, before too much destruction of tissue has taken place, they would seem to offer some hope of improvement from radical surgical interference, with subsequent supporting treatment and proper climatic environment.

THE TUBERCULIN TEST: CASES IN WHICH IT SEEMED JUSTIFIED AND DECISIVE.*

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IN an experience the trend of which is largely toward the upper as well as the lower respiratory tract, it should be one's constant effort to establish the real diagnosis in the earliest demonstrable stage of pulmonary tuberculosis. This infection, when present in a latent form, during a slow and insidious onset and during periods of partial arrest, by impairing the general vitality predisposes to other and more conspicuous complaints, prominent among which are catarrhal conditions of the upper respiratory tract. With an irritable throat, a hacking cough, a tendency to hoarseness and an inclination to rhinitis the patient of this class is often ready to believe and sometimes even to insist that he has only "throat trouble" or "catarrh." To demonstrate in such a case an unmistakable underlying tuberculosis in the earliest, perchance, remediable stage, is to render immeasurable service. Others, again, who may be suffering from affections actually limited to the throat or from non-tuberculous bronchopulmonary conditions, are not infrequently in constant dread of tuberculosis and demand of their consultant a positive and speedy opinion which shall either confirm their fears or ease their troubled minds. To announce tuberculosis even ten-

* Read before the American Climatological Association, June, 1901.

tatively to such a patient when in reality it does not exist is perhaps to work a great and irreparable injury.

One meets with no inconsiderable number of patients in whom it seems of paramount importance to exclude positively tuberculosis. It is conceded that to this end, in the majority of cases, a consideration of the symptoms and of the physical condition is entirely adequate, yet in an appreciable minority this evidence because of its scantiness and of possible variations in its interpretation is not conclusive, and conversely the typical, steadily-progressive case of pulmonary tuberculosis may be gauged by a tyro, while the atypical case by reason of minuteness of foci of infection, diminished virulence, increased resistance, favorable environment, latency, fibroid inclusion, arrest, or confusion with other pathogenic infections, may leave an uncertainty in the mind of the expert.

There is a prebacillary stage in the sense that the sputum examination may be negative without disproving the existence of tuberculous infiltration. Confusion arises between the normal relative dullness and harsher respiratory murmur of the right infraclavicular region and the slightest signs of initial tuberculosis at that apex. The temperature when other symptoms are obscure is not always decisive and would best be observed over a period of weeks, even months, if one would attach to it a positively diagnostic import. Subacute inflammatory attacks in the upper respiratory tract, influenza and its after-effects, empyema of the nasal accessory sinuses, prolonged convalescence from acute pleuritis or pneumonia, and the primary and secondary stages of syphilis are the conditions which I have in mind as simulating for a time the unpronounced tuberculous febrile reaction. This is especially true when these affections occur in individuals of relatively light weight, deficient nutrition, sedentary life, poor thoracic development and adverse hereditary tendencies. And then there are prefebrile, interfebrile and postfebrile periods in which the tuberculosis, supposedly for the moment in a state of inactivity, fails to register above 99° or 99.5° F., which does not exceed an occasional maximum normal. There are persons in varied states of simply impaired health or in the midst of an exhaustion incidental to a strenuous life whose afternoon temperatures reach that point.

So also with the rapidity of the pulse. When there is progressive activity of the infective process the resulting toxemia quickens the heart, but in intermediate periods and in latent tuberculosis the pulse-rate may not rise above 80. Stress has been laid upon the inalterability of the rapid pulse-rate by position and the characteristic sphygmographic tracings,¹⁰ but one would expect these also to vary in accordance with the degree of activity, as does the rate itself. Attention is also called to the fact that the arterial pressure in tuberculosis is low, as it is in other forms of anemia, but that blood examinations, with special reference to the low specific gravity of chlorosis,

while not an unerring guide, may aid in differentiating the anemias.

Therefore, while it is not contended that the fallacies herewith enumerated are of very frequent interposition and while it is admitted, even urged, that the conclusiveness of the customary methods of examination can be broadened by superior skilfulness and a keen appreciation of certain of the finer phases, such as skodaic tympanic apical resonance, a heightened pitch of the prolonged expiratory murmur, the relation of height to thoracic perimeter,¹ Roentgen-ray photography, etc.; nevertheless it happens from time to time that cases present themselves in which it is impossible to assert the presence or absence of pulmonary tuberculosis despite a conscientious resort to all of these means, and in them it would seem that the careful injection of tuberculin as a test is both justifiable and decisive. I say justifiable because notwithstanding the commendations of all who have recorded a practical use of the test, including B. Fränkel,² Trudeau,³ Beck,⁴ A. C. Klebs,⁵ Otis,⁶ G. W. Webster,⁷ Whittaker,⁸ Anders,⁹ and numerous others, there is still an aversion to the deliberate injection of the organic toxins of a pathogenic organism, such as the tubercle bacillus, an aversion which by laymen is based upon the mere uncanniness of the idea and by physicians upon the double apprehension that tuberculin may carry virulent tubercle bacilli and that its injection may generalize or re-excite a previously circumscribed, quiescent tuberculous deposit.

These apprehensions have been definitely answered anew by B. Fränkel,¹¹ who affirms that the tuberculin of Koch is heated in a water-bath to a consistency of one-fifth its volume and then filtered, that therefore it can contain no living thing. The fear of generalization and re-excitation he ascribes solely to the observation that during the early use of tuberculin as a cure dissolution was apparently hastened in certain advanced fever stricken cases, but now, by reason of the many thousand of test doses which have been given without detriment, he holds it proven that the careful application of the tuberculin test can result in no harm.

In the midst of an undue conservatism the decisive value of this test was first forcibly impressed upon the writer by the following case:

Case I.—Mrs. J. A., age 35 years at first examination in 1890; weight 90 lbs.; height 5 ft. 4 in.; anemic, persistent cough, expectoration negative regarding tubercle bacilli; afternoon temperature 99° F.; never above 99.6° unless having acute rhinobronchitis; pulse 90 to 110, weak and compressible; pronounced hypertrophic rhinitis, follicular pharyngitis and laryngeal irritation; chest emaciated, slightly pigeon-breasted, narrow at the apices, periphery 26½ in. Respiratory murmur at left apex approaches bronchovesicular, percussion resonance impaired, but these signs then so slight as to be noted with a question mark. They had become more pronounced in 1892 when also the murmur over the right infraclavicular

and mammary regions lacked breeziness and strength. Certain features were absent, but a provisional diagnosis of partly latent tuberculosis seemed reasonable. The following winters were passed at Colorado Springs, Col.; Asheville, N. C., and Las Crucis, New Mexico, where skilled physicians concurred in the diagnosis. The physical signs did not progress and later the disease was supposed to be "arrested." About 1895 certain neurotic symptoms appeared, hysterical aphonia, high-pitched voice, twitching of the facial muscles, leucoderma and edematous ethmoiditis. A few nasal polyps were removed in 1896 with the comment that these were unusual in tuberculosis. Soon, during an attack of acute rhinobronchitis with digestive derangement, irregular asthmatic symptoms developed which further clouded the original diagnosis. About this time, during my temporary absence, Dr. Boomer injected tuberculin and later I repeated the test, both times without reaction. The final diagnosis is bronchial asthma and pulmonary fibrosis, both of mild degree. At present all symptoms are in abeyance except cough and malnutrition. Weight reduced to 81 lbs.

Case II.—Rev. H. R. O., aged thirty years, well nourished, thick-set and of good color; loss of energy, persistent morning cough and mucopurulent expectoration for nine months; afternoon temperature 98.4° to 99.2° F.; pulse, 80. Three negative sputum tests by Winnipeg Government laboratory and several indecisive physical examinations. Resonance and vesicular murmur at right apex impaired, but scarcely more than the relative difference. Also dulness over a limited area at the left base. No rales. Skiagraph inconclusive. Wants a positive opinion on which to base action regarding choice of climate and pastorate. Tuberculin, .003, caused little reaction, but .006 at 4 p. m. sent the temperature to 101° F. by 11 p. m., together with malaise and chilliness.

The next two cases are of special interest aside from the negative tuberculin tests.

Case III.—Mr. F., aged thirty-two years, weight 137; height 5 ft. 11 in.; temperature 98.4° F.; pulse 65. Always anemic. Felt well till two weeks ago. Then confined to bed two days with cough and pain in right side; at business since, but conscious that right lung fails to inflate. Inspection shows right diminished and left exaggerated expansion, but no interspace retraction, bulging nor adhesive collapse of side. Respiratory murmur over whole right lung deficient, distinctly tubular, but with a light vesicular character when forced, as if adequate air failed ordinarily to enter the lung. Vocal fremitus intensified toward the base. Resonance impaired but nowhere flat or decidedly dull. No rales or creaking. Aspiration negative. No tumor or cause of occlusion of main bronchus. Probable diagnosis, restriction of expansion from thickened and adherent pleura following pleuritis. He applied chiefly for an opinion concerning tuberculosis and willingly submitted to the tuberculin test, which was negative.

Case IV.—J. E. T., aged forty-one years; height 5 ft. 9 in.; weight 128; former weight 150. Temperature 99.6° F.; pulse 96. Had syphilis twenty years ago. Cough and right pleuritic pains for two years. Murmur over right lower lobe elicited only by forced inspiration, weak, distant, not bronchial and with subcrepitation like the creaking of thickened pleura. Resonance impaired but not flat, no fluid, fremitus increased. Sputum negative. Repeated tuberculin tests negative. Rapid amelioration of cough, pain and dyspnea under potassium iodide. One year later, weight 144, pulse 80.

Other instances in which the test proved of value include positive reactions in two cases of early laryngeal tuberculosis (Cases V. & VI.) in which the pulmonary involvement was so slight as to be doubtful. In one the disease progressed but slowly, the test induced submission to suitable treatment, and the patient still survives, well nourished, of good color, fair strength, pulse and temperature normal, larynx cicatrized, but with cough, hoarseness and an infiltration of the larynx. A few tubercle bacilli have since been found in the sputum.

Case VII.—H. E. O., aged twenty-three years, but youthful in development, height 5 ft. 11 in.; weight 125 lbs.; pulse 99, temperature 100° F. Two sisters affected by tuberculosis. He applied for an opinion while suffering from an acute laryngobronchitis. Chest flat and small, shoulders sloping. Murmur at apices deficient, puerile and jerky. After a few days his temperature and pulse had regained the normal. Sputum examination and tuberculin test both negative. He remains well now, two years after.

Case VIII.—Mrs. W., a physician's wife, in whom hypertrophic rhinitis and laryngotracheitis had long been permitted to mask an apical tuberculosis. Temperature 99.4° F.; pulse 79. The positive reaction of the tuberculin test proved sufficiently convincing to induce a correct mode of treatment. Tubercle bacilli subsequently found.

Case IX.—Dr. W., a young woman hospital interne, who by study and confinement had lost flesh, strength and color and in whom incipient tuberculosis was suspected by her colleagues, because of cough and deficient respiratory murmur, was given assurance by a negative tuberculin test by which relinquishment of position was avoided. Recovery ensued through better care.

I have used the test satisfactorily in still other cases, but those described represent conditions in which it proved an essential aid to prompt and precise diagnosis, therefore seeming especially justified. Other circumstances under which it was proposed as suitable, but was rejected by the patients, mostly through interference by other physicians, include a case of hemorrhage, possibly pulmonary but lacking in positive physical signs, one of early circumscribed dry pleuritis in the person of a young physician whose life might have been saved by a timely demonstration of tuberculosis, another of circumscribed dry pleu-

ritis of one month's duration, with pain and friction sounds, all of which disappeared in a week under counter-irritation and sodium salicylate, leaving the fundamental cause in doubt, and one of tuberculous family history, with rapid pulse and normal temperature, with ratio of chest perimeter to height and corpulence reduced, but without other rational or physical signs except slight cog-wheel respiration and perhaps a trifle more than relative dullness at the right apex.

The test quantity of tuberculin is usually stated at .005, although the first dose should be less in order to provide against a supersensitiveness or extreme debility of the patient. In this precaution lies the element of safety. The fact that hypodermic syringes are not usually graduated in the metric system has deterred some from using the test. My method has been to prepare afresh at each injection a 2½-per-cent. aqueous solution of Koch's old tuberculin of which 1 minim, representing approximately .0015, may be the initial dose for a debilitated person or 2 minims representing .003 for one of good size and strength. Failing to obtain a positive reaction, the test is repeated after three days, being trebled in the first instance, that is, 3 minims injected representing .0045, or doubled in the second instance, that is, 4 minims injected representing .006. Thus a conclusion is reached by two injections. The reaction consists of a rise of temperature of about two degrees in from five to twenty-four hours, supplemented usually by malaise, slight chilliness and increased cough, which all subside within twenty-four to thirty-six hours.

Is the tuberculin test always decisive? If one were compelled to answer by an unqualified "yes" or "no," it must be admitted that there are variable factors, such as special susceptibility, exceptional resistance, habituation to toxins, and even a close similarity of other pathologic processes to tuberculosis, which are capable of precluding absolute accuracy or results. Since Koch's description of a typical reaction in himself by an injection of .25 it is known to be merely a matter of sufficiently large dose to cause any person, either normal, indifferently ill or tuberculous, to exhibit a characteristic general reaction. In the non-tuberculous as a rule the dose must considerably exceed .01, while the special affinity of tuberculin for tuberculous tissue causes a reaction to be elicited by a dose under .01, usually .005 or less. It is conceivable that in exceptional instances a natural supersensitiveness toward tuberculin might be found just as certain persons are extraordinarily impressionable to cocaine, turpentine, quinine, etc.; but, while such a heightened susceptibility might underlie a very small percentage of errors it cannot be made to account for eight¹⁰ or nine¹¹ per cent. of reactions, said to have been produced in healthy persons. The most reasonable explanation of this large discrepancy lies in the recollection that autopsies disclose previously unsuspected foci of tuberculosis in even a larger proportion and that the bulk of the eight or nine per cent., therefore, were probably

tuberculous. Practically heightened susceptibility is less apt to vitiate the results, for the reason that the test with reference to pulmonary and laryngeal conditions is needed only when it is a question of incipient, latent or unpronounced tuberculosis in which the patient, not being habituated to large quantities of the toxin already generated in the body, reacts to quite small test doses. For the same reason it is readily appreciated that in advanced tuberculous toxemia reactions are excited only by large doses, with correspondingly lessened safety and dubious results. In such cases the test is not commended and should be but rarely required.

The course of events in the limited series of cases herewith described tends to support the decisive character of the test, but a demonstration from any human statistics is obviously impossible. Verification by autopsy is the only universal proof, hence the value of bovine records. The Illinois State Board of Live Stock Commissioners¹² in a synopsis for the year 1899 shows the smallest percentage of errors yet attained. Of 3,655 cattle officially tested, 560 were condemned, of which all but 8 were found tuberculous at a careful but ordinary macroscopic autopsy, and of these 3 had given only partial reactions, thus reducing the actual failures to 5 or less than one per cent. Eight other cows which had failed to react to tuberculin were also killed on account of actinomycosis, mammitis, etc., and found free from tuberculosis. The latter is a small number, but as far as it goes it tends to substantiate the negative value of the test. But it is argued man suffers from other diseases, not present in cattle, which are said to react to tuberculin, notably syphilis and lepra. Additional evidence that this allegation concerning syphilis is correct has just been presented by E. A. Otis.¹⁴ It may cause no local reaction in visible syphilitic lesions. Fränkel¹⁵ refers to a case which concerned the diagnosis between syphilis and lupus of the nose in which tuberculin caused a general but not a local reaction. The local lesions subsequently healed under potassium iodide and the syphilis proved to be complicated by pulmonary tuberculosis which explained the systemic reaction. Tuberculosis exists not rarely in conjunction with syphilis, yet the proportion of reactions in syphilis seems too large for this explanation to be complete. One must, therefore, otherwise exclude syphilis in case of positive reaction. An imperfect reaction is said to occur in certain cases of sarcoma and carcinoma, but the same liability to the co-existence of tuberculosis should be remembered. Lepra is closely related to tuberculosis and a reaction in it, which is said to occur, would seem not unreasonable.

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MEDICAL PROGRESS.

Epistaxis.—In severe cases of hemorrhage from the nasal mucous membrane too little attention is paid usually to the fact that the blood is in nearly all cases coming from a very small area and, if this can be located, direct application of pressure or a hemostatic agent will be amply sufficient to control it. T. K. HAMILTON (*Inter. Med. Jour.*, Aug. 20, 1901) deprecates the general use of posterior and anterior plugging of the nares on account of its difficulty, its annoyance to the patient and the danger of sepsis from the putrifying blood-clots. "Bleeding, uncomplicated by rhinal disease, is almost always from the artery of the septum, near its anterior portion." Direct examination with a good light usually discloses the offending point. A piece of gauze or cotton soaked in antipyrine or adrenalin and directly applied is frequently sufficient. If plugging is necessary a long single piece of gauze, dry or soaked in the above solutions and applied from the anterior nares, is better than posterior and anterior plugging, but, if the latter in extreme cases becomes necessary, the cord should be passed through the nares by means of a catheter rather than any instrument. To arrest arterial hemorrhage the galvanocautery is by far the best treatment.

Bacteriology of Gangrenous and Fetid Suppurative Processes.—During the past few years much attention has been directed to the study of anaerobic species as the causative agents in gangrenous and fetid suppurative conditions. So essential have anaerobic methods become that little value is to be placed upon bacteriological investigation into these conditions which does not include anaerobic with aerobic study. In studying appendicitis, postpartum suppurative conditions, genito-urinary infection, purulent otitis, pulmonary gangrene and putrid pleuritis, EDWARD RIST (*Ctblt. f. Bak.*, Sept. 10, 1901) has availed himself of anaerobic methods and never in any one of these conditions has he examined fetid pus without finding a number of anaerobes present. Artificially cultivated these cause gas formation and putrefaction. He believes that the causative agents of gangrene are anaerobes, since these cause the necrosis of living tissue and produce toxins giving rise to systemic symptoms. As much of the work which has been done in infective conditions has been carried on only under aerobic methods, he believes that the prevailing theories with regard to many of these are open to grave doubt.

Chronic Intestinal Obstruction.—The symptoms present are constipation, eructations, tym-

panites from gas above the obstruction, diarrhea alternating with constipation, colicky pains, writes D. S. HANSON (*Pediatrics*, Oct. 1, 1901); as obstruction becomes nearly or quite complete, vomiting supervenes. It is surprising how well a child will do when the intestine is reduced to a sixth or an eighth of its normal diameter. In cases of long standing with marked obstruction, the fluid portion of the intestinal contents may be absorbed, causing headache, nervousness, moroseness, foul breath, coated tongue, dry skin, etc. Stomach dilatation is rare, but the colon may become immensely dilated when the obstruction is low.

Oxygen Inhalation.—Many writers have argued from the physiological standpoint that the attempt to use oxygen inhalations for therapeutic purposes is necessarily fruitless. A theoretical discussion of the question by E. ARON (*Berl. klin. Woch.*, Sept. 16, 1901) is followed by a citation of clinical experiments. In cases of chlorosis the result of oxygen inhalation was absolutely negative. In marked dyspnea from cardiac and pulmonary diseases somewhat better results were obtained. Several patients were relieved while oxygen continued to be administered, but no longer; others, markedly cyanotic, denied all subjective relief, and objectively no improvement was seen. So far as subjective findings are concerned, the substitution of ordinary air for oxygen without the patient's knowledge showed that in many instances these are largely due to suggestion. In carbon-dioxid poisoning, inhalations of oxygen are indicated owing to the strong chemical combination found between CO² and hemoglobin, which combination is very slowly if at all affected by ordinary atmospheric air, while it is rapidly destroyed by an atmosphere containing a high percentage of oxygen.

Reabsorption by the Pleura.—Although it is well known that the pleura possesses considerable reabsorbing power, the limitations within which such power exists have not been definitely comprehended. The subject has been submitted to experimental investigation by JUL. A. GROBER (*Beiträge Path. Anat. und all. Path.*, Bd. 3, Hft. 2). He considers the anatomical relations of the normal and diseased pleura together with the amount and rapidity of reabsorption by the same. The pleural cavity is in direct communication with the lymph-vessels. The healthy pleura is able to reabsorb foreign bodies and fluids and in every animal an amount proportional to its size in a given time. This is accomplished by diffusion and osmosis, by breathing movements, namely, the pump system of the intercostal lymphatics and the pressure of the lungs against the thorax wall, and the movement of the pleurae against each other. The reabsorbing power of the inflamed is considerably less than that of the normal pleura. The sound pleura is able to dispose of certain quantities of micro-organisms and toxins without injury to itself. The inflamed pleura does not possess this property.

Pupil in General Disease.—In testing for the light reflex it is a common error that the patient is looking at the source of the light or at some near object. A blind eye will not react to light thrown on its own retina, nor will the second eye, but both will react perfectly if light be thrown on the sound eye. Paralytic mydriasis is seen in progressive paralysis, where at first there was myosis, and in various diseases of the base of the brain affecting the third nucleus or nerve. Irritation mydriasis occurs in cervical spinal meningitis, in the spinal irritation of anemia or chlorosis, as a premonitory sign of tabes, in psychical excitement, and in general paralysis (often in one eye with myosis in the other). While some authorities declare that unequal pupils are always pathological, E. E. JACK (*Boston Med. & Surg. Jour.*, Sept. 26, 1901) has seen inequality last for years from childhood up without other symptoms developing. Irritation myosis occurs in early stages of inflammatory affections of the brain and meninges; later there is dilatation. Paralytic myosis occurs in spinal lesions above the dorsal vertebrae. The best authorities believe that the Argyll-Robertson pupil, reacting in accommodation but not to light, is always a symptom of existing or approaching serious nervous disease. Wernicke's symptom, the hemianopic pupil, is of important localizing value when it can be demonstrated. Hippus, or pupillary oscillation followed usually by dilatation when light is thrown into the eye, is an early sign of a coming paralysis, but is also reported in hysteria and disseminated sclerosis. In the algid stage of cholera the retention of the light reflex implies a good prognosis, its absence the reverse. In diagnosing the nature of intracranial lesions pupillary symptoms, if alone, are of slight significance, except that the lesion must affect the nucleus itself or must be peripheral. If, however, with this isolated symptom there are evidences of involvement of other nerves, the pupillary symptom may become important.

Ringworm and Favus.—Ringworm of the face and body is almost exclusively due to the *megalosporum*, writes A. D. MEWBORN (*Pediatrics*, Oct. 1, 1901), which exists only within the hair, never forms a sheath, and has spores arranged in longitudinal chains. When on the scalp, the favus fungus, *microsporum audonini*, is never found with megalosporum. The microsporum is an endo-ectothrix; the long, slender, jointed mycelium growing lengthwise within the hair, while the closely packed spores form a sheath around the hair, sometimes extending as much as 1 or 2 cm. above the surface of the scalp. Under a low-power lens one of these hairs looks like a glass rod which has been dipped in glue and then rolled in fine sand. The treatment for ringworm used by Sabouraud is to epilate once a week all the diseased hairs, as well as the healthy ones, for 1 or 2 cm. around each patch. The rest of the scalp is shaved, rubbed with a mixture of tincture of iodine, potassium iodide and glycerin, and a cap tied on for pro-

tection. The diseased follicles are each touched with croton oil on the end of a toothpick mop. Three or four months is the average time required for cure. Cases of alopecia areata are treated by the Finsen electric light three times a week. The favus cases are treated by monthly epilation and the daily use of a tincture of iodine mixture. Their cure requires four to five months.

Hemoglobinuric Fever.—This fever, seen principally in the South, where it is also known as hemorrhagic malarial fever, swamp fever, or black-water fever, is the pernicious malarial fever in which the urine is loaded with the coloring matter of the blood and has the malarial parasite as an active causative agent. In regard to treatment the profession is divided as to whether large doses of quinine used in such cases may not be the cause of the hemoglobinuria. W. SHROPSHIRE (*Georgia Jour. of Med. and Surg.*, Sept., 1901) reports two cases in which the quinine treatment was thoroughly tried. In one instance quinine in moderate doses had been used in a severe case of malaria and blood began to be passed in the urine. She was then given twenty grains hypodermically every five hours. Cinchonism was caused in a few days, but the bloody urine had ceased and the patient was cured. Another similar case is offered to show that during the administration of moderate doses of quinine, hemoglobinuria may develop, but if the dosage is increased the symptom will clear up, showing that this drug cannot be held responsible for the complication.

Correct Posture.—The proper attitude is not to throw the shoulders back, the chest out, the head up and the chin in, writes J. M. TAYLOR (*Pediatrics*, Oct. 1, 1901), for this means restraint of free movement. A simple rule is to let the shoulders alone, but keep the back straight, hold the chest up and keep the abdomen held in. The pelvis also should be level, not tilted forward, as is commonly the case.

Oleic Acid in Hepatic Colic.—Seventeen cases of hepatic colic are reported to have been successfully treated by means of oleic acid by S. A. DE VEVET (*Rev. de ther. medico-chir.*, Sept. 15, 1901). The action of olive oil in such cases is probably due to its oleic acid. Oleic acid may be used successfully, according to this author, not only to relieve attacks of hepatic colic, but to prevent them; by its chemical action it prevents the formation of new calculi. From one-half to one gram should be given daily, in capsule, for ten or fifteen days before the approach of the ordinary epoch of attack, if attacks are periodical. After several such courses of treatment the drug may be withdrawn. The alimentary and hygienic regimen ordinarily practised in these cases must not be neglected.

Cerebral Pressure following Trauma.—In examining the contents of the cranium during operation after traumatic cerebral lesions, the dura is found tense and the brain non-pulsating at the cranial opening. This intracranial pressure is not due to the introduction of extraneous substances,

such as blood or clot, as it occurs in the absence of hemorrhages. The determination of the cause of this abnormal pressure is of great interest on account of its practical importance to the neurologist and surgeon. W. B. CANNON (*Amer. Jour. Phys.*, Oct. 1, 1901), after a study of the pathological conditions in traumatic intracranial lesions, the clinical findings in such cases and an experimental inquiry into the cause of brain pressure, arrives at the following conclusions: At the moment of injury the intracranial pressure rises to a height sufficient to check the blood-flow into the brain. Immediately after injury the general blood-pressure usually rises for a moment and then falls. Thereafter a gradual recovery of the normal blood-pressure occurs with an increase in the extent of brain pulsation. The paralysis of the respiratory center following head injury may be recovered from if artificial respiration is persisted in and the heart action remains strong. The primary loss of consciousness after a blow on the head is apparently due solely to circulatory disturbances, although minute changes in the nerve-cells must also be considered. The normal cerebral pressure is about 13 cm. of water. After injury to the brain this may rise to 25 cm. Since this increase is not sufficient to account for the clinical symptoms present there must be secondary processes causing increased pressure. These are three in number, namely, (1) deprivation of normal nutrition in injured parts; (2) passage of water into these parts with consequent swelling; (3) the rigid inclosure of the brain causing this swelling in one region to markedly effect neighboring regions. The thromboses, extravasations and hemorrhages which accompany contusion impair the blood-supply of the injured region. Brain tissue deprived of blood undergoes chemical changes resulting in increased internal osmotic pressure and the passage of water into the tissue. The swelling thus produced compresses neighboring regions impairing the circulation and involving them in the process. This swelling is mainly produced by increased osmotic pressure which may be greater than the blood-pressure, thus preventing the blood from entering the cranium. Recovery from head injuries after pressure symptoms and the accumulation of fluid under the dura and in the ventricles is accounted for by the diffusion of the products of destruction from the tissues.

Precocious Maternity.—An extremely easy labor in a colored girl of eleven years with small pelvis is reported by L. M. ALLEN (*Maryland Med. Jour.*, Oct., 1901). The labor was attended with little apparent pain and was almost spontaneous, although preparations had been made for operative interference if necessary. The pelvic measurements were as follows: Interspinous, 22 cm.; intercrystal, 21.5 cm.; right oblique, 18.5 cm.; left oblique, 18.5 cm.; external conjugate, 14.25 cm.; diagonal conjugate, 8.5 cm. The vagina was small. As a general rule a pelvis of 8 cm. true conjugate will allow labor to proceed

either naturally or by version or forceps, but when below 8 cm., if the head cannot be made to engage, a major operation, either symphysiotomy or Caesarian section, must be considered. Yet, as methods of measuring the pelvis give only approximate results, conservatism until Nature has had a good chance will save many a major operation.

Color Factor in the Anopheles Hunt.—Among the vast number of experiments which have been made with a view to exterminating the mosquito, those by GEORGE H. NUTTALL (*Brit. Med. Jour.*, Sept. 14, 1901) seem of particular import and interest. Although for a long time it has been known that the *imago*s, particularly during the day, retire to dark and shady places, it would seem that the relation of the insects toward various colors has not yet received particular attention. Studies of their relation to white and black have been made by Austin, who noted that if the walls of the room were whitewashed with a dark dado, the insects invariably clustered on this, always avoiding white. Buchanan, in India, noted that the *Anopheles* always settle on the black coats hanging in the hospital wards, rather than on the white ones. Joly, writing from Madagascar, carries this observation further in reporting that mosquitoes were more attracted to black than to red or white sands. Brown clothes, he observed, attracted them less than garments of white. Madagascar natives have long known the attraction which black offers and hang black cloth from the rafters of their huts for the insects to collect upon. Yellow dogs he observed were less bitten than black ones, and in like manner the natives suffer more than the whites. In testing the influence of color on the *Anopheles*, a series of pasteboard boxes, each lined with a cloth of different color, was arranged near their breeding-place. Lest any outside factor might influence the settling of the mosquito, these boxes were caused to rotate daily. In the series of 17 observations, the number of *imago*s counted in the 17 different colored boxes varied from 108 for navy blue to none for yellow. Albeit the pale greys, greens, and blues did not collect at any time as many as 10. The practical bearing on this would seem to be that these lighter shades should be the color of all clothes in malarial districts. Nuttall also suggests that traps might well be constructed, the bait consisting of this seductive navy blue.

Bismuth Intoxication.—Symptoms of intoxication may be produced by either the internal or external administration of preparations of bismuth. A ten-per-cent. ointment of bismuth subnitrate was used by DREESMANN (*Berl. klin. Woch.*, Sept. 7, 1901) in dressing a burn of the second and third degree, involving the leg and thigh. Three weeks after beginning this treatment a black sediment appeared in the patient's urine. A severe stomatitis followed. On the gum-borders, anteriorly and posteriorly, a blue-black line formed. Enteric symptoms and albuminuria were both absent. Careful examination

of the drug used showed that there was no contamination with lead or other toxic substance. The patient's condition promptly improved when the bismuth dressings were discontinued and boric acid substituted. While bismuth intoxication is rare, when it does occur it presents a picture easily recognized; severe intoxications are therefore avoidable.

The Management of Eczema.—Perhaps there is no department of medicine so closely encircled by the mystic halo of miserable Christomediaeval pedantry, which after all, even to-day, masks and mars the bulk of our therapy as dermatology. That eczema, like any other skin disease, when cured, "strikes in," is even among the well-educated so firmly established a view, that it seems almost impossible to up-root it. HENRY WALDO (*Brit. Med. Jour.*, Sept. 21, 1901) outlines a number of common-sense points which cannot be too often repeated. Since the bulk of cases (see Kaposi and others) are not bacterial but irritative cleanliness is of paramount import. The part *must* be washed, but not with soap and water. Water harms by producing local cold through evaporation. A safe fluid to use is the juice of bran, oatmeal or starch, prepared from rainwater, and often it is well to tone it down by a dram of soda to the pint. The area must be washed in this once in twenty-four hours and immediately dried. Local rest is very important. Again, it is well to bear in mind the sympathetic relation which exists between the skin on opposite body sides, a hearty circulation produced in one side which may be healthy gives, by a keen provision of Nature, a similar condition in the opposite, whether diseased or not. Protection of the surface is of great import. Those remedies which yield the best results have been shown to be the best protectors. Internal treatment must not be ignored. Milk, blue pill, aperients, quinine, benzo-naphtol are of value. Much alcohol is bad, but Pye-Smith considers light ale not alone harmless but useful. As to diet it is well to recall Sir William Roberts' rule that any food which causes discomfort is not beneficial.

Apex Pneumonia.—Following an exhaustive résumé of the literature, E. F. CORDELL (*Maryland Med. Jour.*, Oct., 1901) concludes that lobar pneumonia affects the apex about one-third as frequently as the base, and the right apex three times as often as the left. Apex pneumonia is not rare in early life, but then the mortality when uncomplicated is almost *nil*. The general mortality of apex and basal forms is about the same. Involvement of both apices, or of one apex and the opposite base, is very rare and not especially fatal. Intemperance and hyperpyrexia do not increase the relative mortality at apex. Delirium is not more frequent, but is oftener seen in complicated cases than with basal pneumonia. Pericarditis is relatively more frequent, as is, also, otitis media, but there is no difference as regards icterus, hyperpyrexia, endocarditis, meningitis, pleurisy, diabetes or empyema. The apex form of pneumonia involves no tendency to eventuate

in phthisis. Pericarditis is a fatal complication, and Bright's disease and bronchitis render the prognosis grave.

Double Stain for the Bacillus Diphtheriæ.—

—The bacillus diphtheriæ stains with all of the basic anilin dyes, and resists iodine in the Gram method. It is stained best with Löffler's alkaline blue. A stain which has the property of differentiating sharply the diagnostic features of the diphtheria bacillus is suggested by R. L. PITFIELD (*Univ. of Penn. Med. Bull.*, Sept. 1901). Three solutions are necessary: (a) Silver nitrate, gram 5; aqua destill., c.c. 5; sat. sol. (alcoholic) fuchsin, c.c. 3; (b) pyrogallol acid, gram 1; 10 per cent. sodium hydrate in water, c.c. 5; aqua destill., c.c. 10; (c) carbol fuchsin solution, drops 10; aqua destill., c.c. 10. Make a smear, fix with heat, pour on smear solution "a," boil a minute, wait a minute and then wash. Then pour on solution "b" and do the same; then wash and pour on "c" for a minute or two, wash, dry, and examine. The organisms appear delicately pink, of slightly uneven shades. Corresponding to the heaping of the protoplasm. At one or both ends, and afterward in the middle, brilliant shining black points appear, which stand out sharp and clear. The author believes that with this stain a rapid and certain diagnosis can be made without resort to culture media.

Nose and Throat in General Practice.—A physician should not be less expert in the use of the laryngoscope than in that of the stethoscope, writes JOHN HUNTER (*Canadian Jour. of Med. and Surg.*, Oct., 1901), for in personal discomfort, many nose and throat diseases are the "peers" of cardiac or pulmonary ones, and laryngeal and nasal diphtheria and tuberculosis stand in the front ranks of malignant diseases. The most interesting parts of the nasal cavity are the turbinated bones. Their porous character, and the large amount of erectile tissue in the thick layer of elastic mucous membrane surrounding them, make them reservoirs for storing blood, hence vulnerable to disease. The first evidences of disease in the nose are suppression or diminution of secretion of serum and swelling of the soft tissues. After twelve or twenty-four hours there is a profuse secretion of serum and mucus and an exudate of lymph and pus cells. Under certain conditions the mucous membrane may atrophy, the secretions diminish and become tenacious, hence may decompose and cause ozena. Adenoids give the clinical features of mouth-breathing, peculiar listless facial expression, mental dulness, impaired voice-production and articulation, deafness, reflex cough and deformity of the chest. Disease of the nasopharynx is often complicated by disease of the middle ear owing to the entrance of infectious germs into the Eustachian tube. The larynx shows the different forms of laryngitis, ulcers, tubercles, and tumors. Implication of the vocal cords impairs the voice. Enlarged tonsils and adenoids should always be removed early, otherwise the chest deformities, mental hebetude, etc., may become permanent. Local

treatment of the nasopharynx consists of the spray or douche of boric acid, sulphocarbolate of soda, etc., in solution, or of inhalations of hot, dry, moist or medicated air. When using a douche the mouth must be kept open, and no attempt made to swallow or cough, lest some infectious matter be carried into the Eustachian tubes. In cases with excessive discharge and infiltrated tissues, a dry, bracing atmosphere is best, but where the tissues are irritable, reflexes exaggerated, or the secretions diminished and thickened, an equable, warm, moist climate is preferable.

Conjunctivitis from X-Rays.—The continued use of the X-rays has been found to cause various disturbances in animal tissues besides simple burns, but severe irritation of a peculiar kind is probably responsible for it all. J. W. SHERER (*N. Y. Med. Jour.*, Sept. 21, 1901) reports the case of a physician who had been daily exposed to the action of X-rays for three years and a half, having made use of these rays in the treatment of carcinomata. A desquamative dermatitis of the exposed parts of the face developed accompanied by bronzing and a little later both lower lids became thickened and the eyelashes and eyebrows were lost. A distinct retinitis also appeared, presumably due to the same cause. The conjunctivitis was limited to the lower eyelids. All these lesions cleared up readily under treatment and removal of the cause. Of three cases treated by this physician for carcinoma of the ocular region only one showed irritation of the eye, although each received about seventy-five treatments.

Gonotoxin and Immunity.—On account of the insusceptibility of most animals to the gonococcus infection, almost insurmountable difficulties have arisen in the attempt to produce an antitoxin serum by the ordinary methods. The goat seems, however, to be susceptible to this poison and De Christmas is said to have produced immunity in this animal. J. R. EASTMAN (*N. Y. Med. Jour.*, Sept. 28, 1901) in a discussion upon the gonococcus and its toxin, states he believes a certain degree of natural immunity exists in such individuals as have been cured of an attack of acute gonorrhea. Very rarely an old roué appears with an acute gonorrhea and when he presents a urethritis it is generally an old relapsing case. Seventy-five per cent. of cases treated occur in men under twenty-five," says I. N. Bloom. Children are very susceptible to the gonococcus infection, and as age advances fresh infections become rarer. It is believed that a gonorrheal urethritis, once cured, confers to some degree an immunity against a subsequent attack.

Diagnosis of Brain Diseases.—Many important suggestions in the diagnosis of brain lesions are given by J. F. ESKRIDGE (*N. Y. Med. Jour.*, Sept. 28, 1901). A change in the character of the respiration, rather than in its frequency, is sometimes the first positive symptom of organic intracranial disease, especially of tuberculous meningitis. A respiration that is more frequent while the patient is asleep or unconscious than while awake is very strong evidence of organic disease.

Apoplexy due to hemorrhage is attended with greater disturbance of temperature soon after its occurrence than when due to thrombus or embolus. There is usually, in cases of hemorrhage, a rise of 2° to 3° F. within six or eight hours, a little higher on the paralyzed side, and gradually coming down at the end of a week or more. In embolus or thrombus cases there is no disturbance of temperature for two days or more, except in very severe cases. Considerable rise in temperature at the end of two to four days is significant of thrombus or embolus with extensive softening. A persistent higher temperature on the paralyzed side indicates softening or inflammation and renders the prognosis grave.

Prophylaxis of Tuberculosis.—Since the positive proof of the existence of the tubercle bacillus was made known, great stress has been laid upon the fact that it is a contagious disease and laws have been enacted based upon the supposition that the greatest danger in regard to consumption arises from infection. J. KUCHER (*Med. Rec.*, Sept. 28, 1901) believes that too much stress is laid upon this point and people are led to forget that the tubercle bacillus must have a suitable soil to work upon and therefore the observance of ordinary hygienic rules of life is frequently far more important in preventing the spread of tuberculosis than any attempt which may be made to avoid infection. If boards of health would concentrate their attention upon regulations of undisputable merit, which are at the same time practicable, and teach people how to live more healthful and hygienic lives it is thought that more good could be done. It must be realized that the tubercle bacillus is ubiquitous and cannot be avoided. It is harmless unless it falls upon favorable soil and the best way to escape it is to fortify the body by a sufficient amount of sunlight and good air, together with proper food and healthful work.

Puerperal Sepsis.—The cause of puerperal sepsis is to be found in some contamination introduced from without which in the congested uterus finds a ready means of propagation on blood-coagula and other dead material. A. HEGAR (*Munch. med. Woch.*, Sept. 17, 1901) describes the end result as follows: Either a general peritonitis sets in or a circumscribed focus forms which may involve the pelvic peritoneum or may be retroperitoneal, sometimes extending up through the diaphragm and setting up secondarily a pleuritis or pericarditis. It is important to know that in the cases of pelvic abscess the peritoneum is always involved primarily, the tubes secondarily. A third set of cases is that where the vessels of the uterus are chiefly affected and thrombi with secondary emboli form. All these pathological processes show themselves by a septic fever curve, rapid pulse and respiration, slight cyanosis, dry tongue and benumbed sensorium. Sappremic fever can usually be readily differentiated; it begins early, lasts from one to four days, rarely exceeds 38.5° C., and with it there is a relatively slow pulse, moist tongue and clear mind, while the physical examination is negative.

The therapy of puerperal sepsis is still unsatisfactory and little is to be expected from anti-streptococcic sera. The performance of hysterectomy has the disadvantage that one never can tell if the process is still confined to the uterus. The author believes in permanent drainage with irrigation of chlorine water ($\frac{1}{8}$ - $\frac{1}{4}$ liter to one liter of lukewarm water) to be repeated every one to two hours by means of a glass cannula connected with a rubber tube and funnel.

Treatment of Seasickness.—Arguing upon the close anatomical relation which exists between the vomiting and respiratory centers on the floor of the fourth ventricle, R. HEINZ (*Münch. med. Woch.*, Sept. 17, 1901) recommends that if the nausea indicative of beginning seasickness sets in, deep inspiratory movements be made to prevent the vomiting. Animal experiments and observations on his own person have convinced him of the practical value of this procedure.

Renal Diabetes.—That a diabetes may develop in diseases of the kidney similar to the experimental phloridzin diabetes is stated in most works on diabetes. H. LUETHJE (*Münch. med. Woch.*, Sept. 17, 1901) says, however, that before this diagnosis can be made the following must hold true. (1) Absence of glycosuria before the renal disturbance; (2) synchronous appearance of glycosuria and renal disease; (3) absence of relationship between the kind of food taken and the amount of sugar excreted; (4) diminution of the amount of sugar contained in the blood. One case has come under the author's observation where the diabetes followed an ascending pyelonephritis, gonococcal in origin.

Hand Disinfection.—The extended experiments of TH. PAUL and O. SARWEY (*Münch. med. Woch.*, Sept. 3, 10, 17, 1901) lead them to believe that even with the aid of the most poisonous mercury compounds it is absolutely impossible to render the hands germ-free. The number of bacteria remains large, no matter whether sublimate in aqueous solution be combined with alcohol, or the hands are first rendered fat-free with bolus-paste, or other solvents such as acetone or methyl-alcohol be used, or the sublimate be combined with ointments, or finally if complex mercury-salts be used. As long as no better methods are available, sublimate can, however not be replaced in the surgical disinfection of the hands, since with it the best possible results are obtained.

Etiology of Rectal Polypi.—Of benign polypi in children there are two forms, writes FRANCIS HUBER (*Archives of Pediatrics*, Sept., 1901), the soft gelatinous, composed of the elements of the mucous membrane, and the hard or fibrous, representing mucous membrane supplemented by the connective tissue beneath. Rectal polypi usually originate an inch or so from the anus. The soft may be villous, pedunculated, and from the size of a pea to that of a Concord grape, or glandular or cystic with a short and thick pedicle. Both bleed freely. Polypi are usually single, but may be multiple. The author has observed that

rectal polypi occur only in those who at the same time showed evidences of lymphoid hypertrophies in the nasopharynx with other manifestations of the status lymphaticus. The pathology is identical with that of adenoids. Polypi are often not discovered, though there may be slight hemorrhage from the rectum, pruritis, fissures, or mucorrhoea. In the lymphatic dyscrasia, diarrhea, constipation or other local condition would tend to increase the already large follicles of the rectum, and the expulsive action of the intestine would tend to produce from them a polypus.

Classification of Insanity.—The following five groups of mental affections, F. X. DERCUM (*Jour. of Nervous and Mental Diseases*, Sept., 1901) regards as elemental forms of insanity: (1) Delirium (simple febrile, specific febrile or *delirium grave*, and afebrile), confusion, stupor; (2) melancholia, mania, circular insanity; (3) paranoia; (4) neurasthenic insanities; (5) dementia. The febrile deliria accompany various acute infections, the exanthemata, etc., but *delirium grave* is unaccompanied by any signs of visceral or surface involvements. Afebrile deliria are met with following acute exanthemata, or various intoxications (lead, alcohol), and after trauma or shock. Confusion is a less active and more prolonged condition due to profound and persistent exhaustion and toxin-absorption. There is mental hebetude, but not the cerebral activity indicated by delirium. When confusion proceeds until there is much loss of appreciation of the surroundings, it becomes stupor. In these affections the emotions have no influence, and heredity little if any. In melancholia, mania and circular insanity we have, however, a closely-related group in which heredity and the emotional play an important part. In paranoia we find a history of prolonged mental depression with gradual evolution of delusions of persecution, and finally expansive delusions. The delusions are systematized and persistent. The mania-melancholia condition is intermittent. Neurasthenia implies ready bodily and mental exhaustion and deficient self-control. Dementia presents the signs of mental loss, with failure of the mental faculties, such as memory. The insanities of puberty are the precocious dementias, (1) hebephrenia, marked by elements of depression and expansion; (2) katatonia, with expansion more pronounced, and certain motor disturbances, spasms of muscles, cataleptoid attitudes, automatism, etc.; and (3) marked and well-defined phases of depression and expansion with well-formed delusions more or less systematized. Delirium, confusion and stupor may be met with at any age, mania and melancholia belong to early adult life, and paranoia, the chronic delusional insanity, appears after thirty-five years of age; a persistent melancholia is met with in the middle-aged. The insanities of old age, the senile dementias, may take the form of simple mental loss, of dementia with confusion, delirium or stupor, or of so-called senile paranoia, a dementia with systematized delusions. From the medical point of view, all the mental disor-

ders resulting from the infections, intoxications, diatheses, visceral diseases, nervous diseases, pregnancy, the puerperium and lactation belong to groups one and five. Mania and melancholia never result from these causes, but are diseases primarily of the nervous system, and are largely hereditary. Likewise paranoia and neurasthenia bear no relation to internal diseases, but are favored by persistent depression of nutrition, or anything that will cause degenerative changes in the nervous system.

THERAPEUTIC HINTS.

Kumyss.—Heat two quarts of milk to 100° F., or Pasteurize and cool to 100° F. Dissolve one-third of a yeast-cake in two tablespoonfuls of the milk, boil two tablespoonfuls of sugar with three tablespoonfuls of cold water, mix all together and bottle at once. Cork firmly and stand in a warm (70° F.) place over night. Next morning place the bottles carefully on their sides in a cool place for twenty-four hours. Open with a tap, or use ordinary beer-bottles.—H. V. SACHSE in "How to Cook for the Sick."

Acute Rheumatism.—Bile should be of alkaline reaction, but in rheumatism it is strongly acid, probably on account of biliary stasis and accumulation of uric acid, therefore F. L. SATTERLEE (in "Rheumatism and Gout") prescribes a cholagogue at the outset. A good formula is:

℞ Euonymin 0.015 (gr. ¼)
Podophyllin
Aloin aa 0.008 (gr. ⅛)

Sig. One tablet morning and night as required.

Next alkalies must be given, preferably the sodium salts. The following is effective and well borne by the stomach:

℞ Lithii benzoat. 2.0 (3ss)
Sodii bromid
Potass. carbonat. aa. . . 8.0 (3ij)
Potass. acetat. 45.0 (3iiss)
Sodii phosphat. 15.0 (3ss)
Syr. zingiberis
Aq. menth. pip. aa q. s.
ad 180.0 (5vj)

M. et Sig. Two to four drams in water, every four to six hours, after food. Or sodium bicarbonate or phosphate may be given or

℞ Potass. bicarb. 12.0 (3ij)
Aq. destillat. 240.0 (5vij)

M. et Sig.: One dram to half an ounce of fresh lemon juice, to be taken while effervescing. The alkalies should be kept up until the sweat and urine show no acid reaction to blue litmus. Then a small dose will suffice to maintain the alkalization of the system. The writer never employs the salicylates, as these tend to produce relapses, gastric and cerebral disturbances, cardiac depression, obliteration of the first sound of the heart, etc. Fever may be met with antipyrin, antifebrin or phenacetin, used, however, with caution. Quinine

is worse than useless. These antipyretics are also analgesic, but morphine may be needed. If natural and painless sleep is urgently indicated, the following may be given at one dose:

℞ Morph. sulph. 0.015 (gr. ¼)
Potass. bromid. 2.0 (gr. xxx)
Chloral. hydrat. 1.3 (gr. xx)
Syr. aurant. cort. 8.0 (3ij)
Aqua, ad. 30.0 (3i)

Of mineral waters, Vichy is very serviceable as a vehicle, and Rubinat Llorach to act on the liver.

When the acute symptoms have subsided, the heart must be toned, and the following mixtures are suggested:

℞ Spt. ammon. aromat. 90.0 (3iij)
Ammon. carb. 4.0 (3i)
Tinct. cardamom. 30.0 (3i)
Tinct. nucis vom. 12.0 (3iij)

M. et Sig.: One dram in water, t.i.d., or, as general tonics,

℞ Tinct. ferri chlorid. . . 15.0 (3ss)
Tinct. nucis vom.
Acid. phosphor. dil. aa 8.0 (3ij)
Syr. aurant. cort. 30.0 (3i)
Elix. calisayæ. 60.0 (3ij)

M. et Sig.: One dram in water t.i.d., half an hour before meals, or

℞ Cinchona flav. cort. . . 12.0 (3iij)
Aq. bullient. 150.0 (5v)
ft. decoct. et adde
Ac. hydrochlor. 1.3 (mxx)
Syr. aurant. cort. 30.0 (3i)

Sig.: One tablespoonful in water t.i.d.

The excessive thirst may be met with water or lemonade. The diet consists of milk, chicken or clam broths, or vegetable soups. The return to solid food should begin with white meat and vegetables, as asparagus and celery.

One of the best topical applications is:

℞ Tinct. aconit. rad.
Tinct. arnicæ aa. 15.0 (3ss)
Chloroformis 30.0 (3i)
Tinct. saponis camph. 60.0 (3ij)

M. et Sig: Apply on lint, or rub joint and cover with cotton. When the inflammation determines great effusion into a joint, threatening its integrity, blisters are efficacious.

Insomnia.—In summing up the influence of hypnotics, MITCHELL BRUCE (in "Materia Medica and Therapeutics") advises that full advantage be taken of the indirect group. Bromides are indicated when the cerebral circulation is excited by overwork; and chloral may be combined with it. Pain or mental distress require opium. Alcohol at bedtime may be invaluable. In every instance the time of administration of hypnotics must be carefully ordered. It must never be forgotten that the narcotics, such as opium and chloral, are powerful depressants of the respiration, circulation and excretion, and may thus produce disastrous results whilst they afford the desired sleep.

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SATURDAY, OCTOBER 12, 1901.

POLITICS AND HEALTH DEPARTMENTS.

NEW YORK is not the only city in which the officials hold office for other reasons than their health. Philadelphians are wondering what excuse their Board of Health has for its superfluous existence, in the presence of such death-familiar leaders as Mayor Ashbridge and Col. Good. The Mayor having twice held the office of coroner, and Col. Good having been his undertaker before he became Health Officer, they both seem to have too keen an eye to business, to wantonly cut down the mortality of the city by enforcing even the most simple and necessary sanitary measures.

The recommendations of leading men in the study of tuberculosis, that every case of consumption should be registered, and whenever necessary be followed up by the Board of Health, have never gotten beyond the paper they were written on, for the reason that the Mayor does not believe that tuberculosis is a contagious disease. The Mayor admits that he vetoed the resolutions which his own Board of Health had passed, giving as a reason, lack of funds to carry out the measures. New York and Boston and Brooklyn have shown that the expense amounts

to about 70 cents per case, and could be covered by about \$1,000 a year, and that the liability to contagion is perceptibly diminished by such measures. But the Mayor evidently felt that this was a case for him to use the discretion of ignorance, and the discrimination of prejudice, and so refused to notify the physicians of the city that they should report all cases of tuberculosis, and refused to register those cases that were reported by the chief medical inspector of the city.

The spitting nuisance having excited the wrath of citizens and physicians to the point of action, was formally considered by the Civic Club and the Traction Company of Philadelphia, and steps were taken to procure an ordinance against spitting in public places and corridors. But when the enthusiasm of the anti-spitters reached the Board of Health it met a stone wall of indifference. Possibly the Mayor of Philadelphia believes in spitting as heartily as he disbelieves in the contagiousness of consumption. Possibly he can devise more efficacious ways of spending the public money. Possibly he feels, as do certain Tammany leaders, that he has the dubious honor of his party to uphold, and fears to sink to the level of a mere reformer.

At all events Philadelphia's fame as a center of medical science, the reputation of her men, her hospitals and her literature are but as a feather in the pan when measured with the gold bags which her doughty Mayor reserves for political purposes.

PRACTICAL PROBLEMS IN TUBERCULOSIS.

THE control of the spread of tuberculosis is the most important problem which confronts the medical profession of to-day. Although the researches of a large number of experimental investigators and the practical deductions of countless numbers of clinicians have been brought to bear upon this question, we are forced to admit that, while final success seems assured, the ultimate lines along which this conflict is to be fought have not been as yet laid down with distinctness.

It cannot be denied that from a practical standpoint the most perplexing problem in regard to this disease with which the clinician is to-day brought face to face is the proper and judicious handling of the actual cases of tuberculosis which come under his care. This fact should not be lost to view by those who are at work upon the tuberculosis question. In the absence of any

specific medication which can successfully be applied to this condition and the uncertainty of the result of any and all symptomatic methods of treatment, this problem becomes doubly critical, nor is the adoption of a proper therapeusis the only difficulty. Not less important is the institution of advantageous hygienic measures and above all the advisability of counseling change of residence in the existing circumstances which surround each individual case. When once the diagnosis of tuberculosis is established, the latter becomes one of the most anxious questions to be answered, as it is far reaching in scope, involving the domestic, financial and commercial interests of the patient and those connected with him.

The ability of the physician to deal judiciously with these correlated questions determines oftentimes not only the future outcome but also the personal comfort of the patient and the subsequent fortunes of those related to him. Any information that will contribute to wise decisions is doubly welcomed.

For an intelligent understanding of the conditions and as a basis of wise counsel at least two factors need careful consideration: (1) The virulence of the micro-organisms with which the patient is infected; (2) the degree of resistance which the patient possesses to such infection. Scientific investigation has thus far failed to produce any specific criteria by which the degree of resistance to an existing infection may be definitely established. For a determination of this factor, therefore, we are limited to the clinical observation of the case and provided the virulence of the infecting organism can be reasonably established, such observations are of value, the duration of the infection and the extent of the lesions furnishing valuable data.

The determination of the first of these factors, however, is most important as the virulence of the invading organism often decides the subsequent course of the disease in human beings. Heretofore but little work has been done with the bacillus tuberculosis. Dr. A. J. Lartigau (*Jour Med. Research*, July, 1901) reports the study of this organism in 19 cases of human tuberculosis, 8 of which were scrofulous lymphadenitis, 9 pulmonary tuberculosis and 2 tuberculous bone lesions. His object was to ascertain, if possible, the variations in virulence among tubercle bacilli encountered in different tuberculous lesions in man and the relation of this virulence to the clinical and morphological types

of the disease. His work was carried on by the inoculation of the tuberculous material into a series of guinea-pigs and rabbits which, after various periods of time, were submitted to bacteriological and pathological examination. The dosage of the inoculated material was accurately regulated by a careful technic.

He shows that the inoculation of the bacillus tuberculosis from different human sources induces various degrees of tissue reaction in these animals which, if the investigations are carried on under proper precautions, indicates a variation in the virulence of the organism used. In scrofulous adenitis the bacilli were usually of low virulence, but in some cases they may be of marked activity, in which case the process is apt to extend to other tissues. Tubercle bacilli of widely different virulence may be present in any one of the various tuberculous lesions. So-called healed tuberculosis of the lung may contain virulent or attenuated bacilli. An individual already infected with an organism of slight virulence may undergo a fresh infection with extremely virulent bacilli and chronic tuberculous bone lesions may contain bacilli of both low and high virulence.

The determination of the degree of virulence of organisms pathogenic for man by a study of their effect upon research animals has been employed with respect to many bacteria, but no special study along these lines has been hitherto attempted with respect to the bacillus tuberculosis. From a careful consideration of Dr. Lartigau's work, it would seem as if the time was at hand when the laboratory is to render more aid to the physician in regard to this disease than the mere diagnosis of the condition. Further research along similar lines promises to give results of value which may be utilized in the treatment of individual cases.

COMMERCIALISM IN MEDICINE.

It has recently been said that, while law has become a business and other professional callings are moving in the same direction, the medical profession has during the past fifty years steadily grown away from commercialism. By this statement we are to understand, not that the physicians of to-day have retrograded in sound business policy, but that the ascendancy of what is known as "sharp practice" in the commercial world over the professional duties which form the keynote of medical practice has been avoided.

Assuming that this statement is correct, and as applied to the profession in its entirety it undoubtedly is, there would seem to be implied a libel on the motives of those members of the profession who have gone before, placing them in a less favorable light than the facts warrant. In the last analysis, however, it will be seen that this implication is more apparent than real. If there is any reason why the physicians of to-day are less commercial than those of a half-century ago, it is because of the tremendously increased knowledge in the medical sciences which has more and more drawn their attention from things financial to scientific considerations, so that those who would be sure of ultimate success have had less opportunity to commercialize themselves than did their predecessors. It will be seen, therefore, that the primary object in drawing away from commercialism has been partially one of self-advancement rather than wholly one of philanthropic generosity.

This statement is no slur on the medical profession of to-day for it is a historic fact that the spirit which has very largely actuated scientific leaders in all ages has in the vast majority of cases been this same indomitable desire for individual success.

In regard to the profession of medicine, it has somewhat been the practice in the past, and the same unfortunately prevails in some quarters at the present, to ascribe a very considerable degree of success to that fortunate combination of circumstances known as "good luck" when added to the characteristics of a pleasing personality, the reputation of always being a busy man, and sharp business methods. While in years gone by these possessions may have contributed in a fair degree to personal advancement, the keen-sighted observer, thoroughly conversant with existing conditions cannot fail to observe that the value of these qualifications has been steadily relegated to the rear and that accurate and scientific knowledge along all lines of the allied medical sciences has been the chief factor of success with the pre-eminent medical men of to-day and must increase in importance for those who are to attain success in the future.

We do not intend to depreciate the value of sound business methods as applied to one's professional career, but to hold that those who are to stand in the front ranks of the future must be essentially physicians in all that the name implies and be further removed from what may be known as commercialism than those who have

preceded. It is to be remembered that this conception does not prevent one from utilizing all the known legitimate means for making a livelihood which are open to the medical profession and that such may be used with impunity in so far as they do not conflict with the main object in view nor seriously interfere with a steady progress toward the ultimate goal, but the danger that such means should become to be regarded as the main factors of success must be constantly averted.

It is to be admitted that in certain sections, especially in large cities, there has been evidenced, particularly during the past ten or fifteen years, a tendency on the part of a very limited number of the profession toward commercialism, thus, by their methods, placing themselves on a level with those pursuing ordinary avocations. It should be remembered that by so doing they have virtually withdrawn from the profession and entered into a business on a business basis, submitting themselves to the ordinary laws of commercial pursuits. Observation will show that whatever financial success may have attended their course even this is short-lived from the very fact that the goods which they purport to sell are not marketable in a commercial sense beyond a very limited field. That this evil will always exist is to be expected, but that it will ever become a factor sufficient to degrade the profession in its entirety cannot be comprehended, for the vast majority of those who enter medical practice will always be keen enough to see that genuine success does not lie along these lines and that satisfactory prosperity in the medical profession is incompatible with commercialism in any form.

THE OPENING OF THE NEW TUFTS MEDICAL SCHOOL IN BOSTON.

ON the third of the present month the new building of Tufts College Medical School was formally opened. The building is designed to accommodate both the medical and dental departments, the view taken by the president and trustees being that dentistry, now that it has come to be recognized as a serious pursuit of professional grade, should be maintained at the same dignified level as medicine. And it is thought that by bringing the two faculties under one roof the very best opportunities will be afforded to the student of dentistry to keep properly abreast with the advances which are constantly taking place in anatomical and physiological science.

The soundness of this point of view is very obvious. Even at the present day the notion is widespread in some parts of the profession that the chief requirements for a dentist are—as President Capen quotes them in his opening address—a good eye and deft fingers. On account of this very view we fear that many dental curricula are constructed mainly with the view to the development of eye and fingers, in other words to the training of good mechanics without very much thought to the character of the field in which these mechanics are going to do their work. Now if we consider what a tremendously important factor the teeth are in the maintenance of the entire economy in a healthy condition, the wisdom of Tufts in endeavoring to place her dental students in an atmosphere calculated to stimulate to the highest degree a desire for a thorough knowledge of the chemistry, physiology and anatomy of their chosen branch, is at once apparent.

Apart from this attainment of a specific desire Tufts has, by thus starting out on a larger and sounder basis, accomplished something of even greater significance to medical advance. She has started a new epoch in the history of medical education in Boston. By this we mean she has placed herself in a position to cope with her older and better-known rival, Harvard. The results of such a step as this cannot, we believe, fail to have a beneficial reaction upon both colleges. It tends tremendously to stimulate the teachers in both to do their uttermost, those of the one to gain prestige, those of the other to maintain it. And such rivalry is good for any medical center. To borrow a commercial expression, competition is the life of trade. That it is not wholly bad for science is strongly evidenced by the zeal and activity which mark the work that is done in medical educational circles in Philadelphia—a city where rivalry among medical colleges reaches as high a point as in any city in the country. Here each rival school is stimulated to do its utmost for the students whom it attracts, the feeling being that no amount of prestige gained by age or otherwise can exempt from the closest attention to the exigencies of modern medical teaching. One striking result of all this activity is the higher and higher standard of excellence which these schools are attaining year by year.

Boston is certainly large enough to maintain two medical schools of the first excellence and it behooves Tufts, now that she has taken a fair start, to leave nothing undone that will tend to

add the proper sort of cubits to the stature of her fame—cubits of high ideals, of scientific broad-mindedness and of simple humanity. We wish her every success.

ECHOES AND NEWS.

NEW YORK.

Reception to Dr. Waldeyer.—The German Medical Society of the City of New York purpose to celebrate the presence of Professor Waldeyer in the United States by a dinner on Saturday, October 25th, in New York City.

\$25,000 for University Medical School.—The sum of \$25,000, Chancellor MacCracken announced at Monday's meeting of the New York University Council, has been given to the Medical School by one who wishes his name withheld. The Chancellor reported that the university is more prosperous than for a long time.

The Kings County Medical Association.—A stated meeting of the association was held in Wurzler's Building, 315 Washington street, third floor, on Tuesday evening, October 8th. Dr. Henry H. Morton presented a Case of Vesical Calculus, with Specimen, and also A Dissection of the Seminal Vesicles; Dr. Joseph F. Todd reported on five cases of puerperal eclampsia. Dr. Charles Dwight Napier read the paper of the evening on The Treatment of Congenital Club-foot. It was discussed by Drs. Walter C. Wood and J. M. Clayland.

To Ventilate Tunnel Cabins.—The New York Central and Hudson River Railroad last week applied to the Park Department for permission to open ground at four different points along its Park avenue tunnel for the purpose of laying ventilation pipes from the underground signal cabins at Fifty-ninth, Seventy-second, Eighty-sixth and Ninety-sixth streets. This is the first direct step taken by the road to comply with the Health Board's orders to improve the ventilation of the tunnel. The cabins are to receive a supply of outside air by means of 12-inch cast iron pipes ending in overground ventilation caps.

A Health Board Boomerang.—Some of the property owners living in Park avenue have protested to the Health Board against the changes proposed in the New York Central's tunnel. They assert that if the tunnel's present brick walls are replaced by steel girders and the roof is left more open for ventilation the smoke and fumes at present confined to the tunnel will enter their houses, endangering the health of the occupants. They are about to get up a petition to the board. "Of course these people think they have a grievance," said President Sexton of the Health Board yesterday, "but they are mistaken in their belief that

their houses will be filled with smoke; soft coal is not used in the tunnel. There may be a few cinders, but that can't be helped. It is quite impossible to please every one. The change in the tunnel is absolutely necessary, and will be made."

Mortality in the State.—The bulletin of the State Board of Health for the month of August shows that the mortality was 11,000, or 1,300 less than in July, which was excessive. The only material decrease from July, however, was in deaths from accident and violence, to which insolation, or heat stroke, added 1,300 deaths. This was the cause of very few deaths during August. There were five deaths from lightning stroke and fifty-four from drowning. Acute diarrheal diseases increased the mortality over July, causing 23 per cent. of all deaths, as against 18 per cent. in July. This increase is seen in all the sanitary districts, but is relatively greater in rural than in the urban districts. This mortality is, however, largely urban. Deaths from typhoid fever increased from July in all the districts, diphtheria as a cause increased to a small extent, and whooping cough, as always, showed its largest mortality in August in this State. All local diseases caused fewer deaths. Deaths from acute respiratory diseases fell to 500, which is low. Two hundred and eighty of the deaths were from pneumonia. Outside of New York City there were 210 deaths from Bright's disease. Smallpox caused forty deaths, all in the maritime district.

Preliminary Program of the Eighteenth Annual Meeting of the New York State Medical Association.—The program of the meeting of this association is just announced. The reading of papers will begin Tuesday, October 22d, as follows: The Correction of Deformities following Osteitis of the Knee, by Wisner R. Townsend of New York; Echinococcus Disease in North America, by Irving P. Lyon of Buffalo; Appendiceal Fistula, by John B. Deaver of Philadelphia; The Clinical Course of Cancers, by Albert E. Woehnert of Buffalo; The Present Status of the Infectious Theory of Malignant Neoplasms, by George Blumer of Albany; The Estimation of the Malignancy of Tumors with Reference to the Reported Cures of the Disease, by James Ewing of New York; The Treatment of Sarcoma by Toxin Injections, by William B. Coley of New York; The Treatment of Carcinomatous Growths by Caustics, by Andrew R. Robinson of New York; The Surgical Treatment of Cancer, by Francis W. Murray of New York; Malignant Disease of the Nose and Accessory Cavities, by Joseph H. Gibb of Philadelphia; Intrathoracic Growths, by Alexander Lambert of New York; Cancer of the Large Intestine, by James P. Tuttle of New York; Malignant Disease of the Penis, by Henry H. Morton of Brooklyn; Malignant Disease of the Uterus, by William M. Polk of New York; The Daily Medical Inspection of Schools, by Frederic William Loughran of New York; Perforation of

Gastric Ulcer, with report of a case successfully operated upon sixty hours after perforation, by Lucius W. Hotchkiss of New York; Alcohol as a Therapeutic Agent at the beginning of the Twentieth Century, by Frank Wellington Dennis of Unionville; The Diagnosis and Management of Pelvic Inflammation, by A. Brothers of New York; Skin Diseases of special interest, illustrated by the Stereopticon, by Grover W. Wendé of Buffalo. Collation.

THIRD DAY, WEDNESDAY, OCTOBER 23D.
Symposium on Arteriosclerosis. Arteriosclerosis; Importance, Definition, Etiology and Symptomatology, by Charles E. Nammack of New York; Retinal Findings in Disorders of General Nutrition, by L. A. W. Alleman of Brooklyn; Cardiac Manifestations of Arteriosclerosis, by DeLancey Rochester of Buffalo; Management and Therapeutics of Arteriosclerosis, by Egbert Le Fevre of New York; Blood Examination from the Standpoint of the General Practitioner, by Frank W. Higgins of Cortland; Surgical Malposition of the Gall Bladder, by E. D. Ferguson of Troy. President's Address: Comments on some New Surgical Methods, by John A. Wyeth of New York.

Iodophilia, by Richard C. Cabot of Boston; Laboratory Differential Diagnosis in Surgery, by Simon Flexner of Philadelphia; Modifications in the Methods of Operative Surgery resulting from Laboratory Research, by Joseph D. Bryant of New York; The Use of the Pneumatic Cabinet in the Treatment of Diseases of the Heart, by Charles E. Quimby of New York; Gunshot Wounds of the Hip-joint by Reduced Caliber Projectiles, by Maj. L. A. LaGardi of Washington, D. C.; Asthma of Blood Origin and not Nerve or Reflex, by G. N. Jack of Depew; Conservative Surgery in the Treatment of Tubercular Glands of the Neck, by Parker Symms of New York; A Reconsideration of the Pathogenesis of Concomitant Strabismus, by Alvin A. Hubbell of Buffalo; Acne, by Edmund L. Cocks of New York.

FOURTH DAY, THURSDAY, OCTOBER 24TH.
Differential Blood Count in Fractures, by Wm. G. Le Boutillier of New York; Prostatic Obstruction to Urination. Its Remedy by Enucleation of the Diseased Parts, by J. W. S. Gouley of New York; Typhoid Cholecystitis, with Report of Cases, by Charles G. Stockton of Buffalo, in conjunction with Albert T. Lytle of Buffalo; Uterine Prolapse, by Frederick Holme Wiggin of New York; What Percentage of Rheumatic and Gouty Patients Develop fatal Pulmonary Phthisis? by Thomas F. Reilly of New York; The Diagnosis of Mitral Stenosis, by H. C. Buswell of Buffalo; Resection of the Cervical Sympathetic in the Treatment of Glaucoma; its present status, by Wilbur B. Marple of New York; A Durham-tube in the Right Bronchus, by E. D. Ferguson of Troy; Indications for Treatment in Uterine Myomata, by George Tucker Harrison of New York; Brief Comments on the Materia

Medica, Pharmacy and Therapeutics of the year ending July 1, 1901, by Edward H. Squibb of Brooklyn.

New York State Association.—The Trunk Association has agreed that persons from points in New York State who pay one full fare of 75 cents or upwards, visiting New York City at the time of meeting, shall be returned at one-third of the fare by the route traveled. Certificates must be obtained from ticket agent at starting point (or nearest station issuing through tickets to place of meeting) and be deposited with the Secretary of the Committee on Arrangements as soon as the members arrive at the Academy of Medicine. It must be understood that the reduction is contingent on an attendance of not less than 100 persons holding certificates, showing payment of full first-class fare. If the necessary minimum is in attendance, and the certificates are properly validated, the holders will be entitled to the reduced return fare as late as October 28th.

PHILADELPHIA.

Dr. Mitchell's New Book.—Philadelphia's noted physician and author, Dr. S. Weir Mitchell, has just added another to the list of popular books from his pen. The new novel "Circumstance"—a picture of American and Philadelphia society—bids fair to add luster to the author's already enviable reputation as a writer.

Reception to Dr. Hayhurst.—A reception was tendered October 1st by the Woman's Medical College to Dr. Susan Hayhurst, who for 25 years has been pharmacist of the hospital. Dr. Hayhurst graduated in medicine in 1857 and afterward became the first woman to graduate in pharmacy in this city, that degree being obtained in 1883.

Pay Hospital for Contagious Diseases.—An entertainment for the benefit of the fund for this proposed hospital is to be held in the Academy of Music November 11th to 16th. The suggestion has been made that the institution be called the "McKinley Memorial Hospital." The suggestion is meeting with much favor among physicians and others interested in the undertaking.

Opening of Medical Schools.—The various medical schools of the city began the session of 1901-02 on October 1st. The opening address at the Medico-Chirurgical was delivered by Dr. John C. Heisler, Professor of Anatomy. The exercises at Jefferson were opened by an address by Dr. J. Chalmers Da Costa, Professor of Surgery. Dr. Da Costa will lecture to senior students and hold the Wednesday clinics in the place of Dr. W. W. Keen who is now in Japan on his vacation trip around the world. Provost Harrison delivered the introductory address at the University of Pennsylvania. Several changes in the faculty were announced. Dr. M. H. Fussell has been made Assistant Professor of Medicine, Dr. Thomas R. Neilson Assistant Professor of Genito-Urinary Diseases, and Dr. E. H. Gregory, Jr.,

Demonstrator of Anatomy. Dr. Horatio C. Wood has resigned the clinical professorship of nervous diseases but retains the professorship of materia medica, pharmacy, and general therapeutics. On account of ill health he has been granted one year's leave of absence during which Dr. Frederick A. Packard will lecture on applied therapeutics and Dr. H. C. Wood, Jr., on the physiological action of drugs. The Freshman class is reported to be nearly twice as large as that of last year.

Present Status of Serum-Therapy.—Under the title of "The New Weapon for Fighting off Disease" Dr. Joseph McFarland, Professor of Pathology and Bacteriology at the Medico-Chirurgical College, contributes an article to a late issue of the Saturday evening *Post*. Dr. McFarland writes of immunity, serum-therapy, etc., and although intended for the laity this sentence concerning the present status of serum-therapy is well worthy of quotation here: "At the present time the experiments made have led to the discovery of one certainly curative serum—diphtheria antitoxin; a curative serum of limited application—antivenine (antidotal to serpent's venom); a certainly preventive serum—tetanus antitoxin—and a number of very doubtful serums antidotal to blood poisoning, pneumonia, and plague."

Vacancies in Temple College Medical School.—The chairs of Surgery and of Pathology and Bacteriology are vacant. Applications for these positions will be received until they are filled by the election to be held October 17th.

Smallpox Again Increases.—The diminution in smallpox reported last week proved to be only temporary, the report for the week ending October 5th showing 40 new cases and 6 deaths. During September the cases numbered 116 and thus for this year there have been 259 cases. The history of the new cases show that in most instances the patient contracted the disease from being quarantined in houses from which former smallpox patients had been removed. The clash between the authorities and parents of school children, anti-vaccinationists, etc., still continues. The Mayor has signified his willingness to co-operate with councils in removing the municipal hospital to some less densely populated section of the city.

Bequests to Charities.—The will of the late Thomas Elkinton disposes of over \$100,000 to charities. The Jefferson, Orthopedic, Polyclinic, University, and Pennsylvania hospitals receive \$5,000 each. On the death of the widow they each receive an additional \$5,000.

Treatment of Gunshot Wounds of the Abdomen.—At the Philadelphia Academy of Surgery October 7th Drs. Le Conte and Harte each reported a case of gunshot wound of the abdomen, recovery of the patient following operation in each instance. In discussing the papers Dr. W. L. Rodman emphasized several points: (1)

the subsidence of shock should not be waited for in these cases, operation being done at once. He believes that the degree of shock in cases without hemorrhage has been greatly exaggerated, many of them having normal temperature. When present it is likely due to hemorrhage and immediate operation is then indicated; (2) pistol wounds should always be looked upon as septic; (3) drainage should practically always be used; (4) in military surgery non-intervention seems to be the better plan to pursue. In civil practice operate promptly, not waiting for symptoms.

CHICAGO.

Rush Medical College.—Fourteen graduates received diplomas September 30th from this institution at the convocation exercises held at the College. The work entitling the graduates to the degree of Doctor of Medicine had been completed during the summer quarter at the school. The address on behalf of the Faculty was given by Dr. F. C. Hotz, who selected for his subject, "What Constitutes the Practice of Medicine."

Northwestern Medical College.—The Northwestern University Medical School held its opening exercises October 1st. Despite the rigid requirements for admission, it is said that the Freshmen class is by far the largest in the history of the institution. There is also an influx of students to the higher classes, among the latter being a large delegation from the University of Iowa, where the medical department was completely wiped out by fire some months ago. Mr. James H. Eckels delivered the opening address.

Appointment of Dr. N. S. Davis, Jr.—Dr. Davis has succeeded Professor Frank S. Johnson, who resigned the Deanship of the Northwestern University Medical College. The position of Secretary, left vacant by the promotion of Dr. Davis, has been filled by Dr. A. R. Edwards.

Death of Dr. Jones.—Dr. Samuel J. Jones, Professor of Ophthalmology and Otolaryngology at the Northwestern University Medical School for twenty-five years, died at his home, Oct. 4th. He was surgeon in the eye and ear department of St. Luke's and Mercy Hospitals, and from 1887 to 1892 was Editor of the *Chicago Medical Journal and Examiner*. He was a member of the American Medical Association, and of the local medical societies. During the Civil War he was a surgeon in the United States Navy, and participated in many naval engagements. Dr. Jones was sixty-five years of age.

Illegible Prescriptions.—Public attention is called to the danger that lurks in illegible or carelessly written prescriptions by a suit for damages that has just been brought against a West Side druggist by a Chicago citizen who claims that the druggist in compounding a prescription for his baby used a compound containing 10 per cent. opium instead of 1 per cent. opium, which the prescription called for. The druggist shifts the blame to the physician who wrote the prescription,

claiming that the writing was illegible. Independent of the particular allegations in this case, it is plain that the public safety is constantly menaced by careless and illegible writing of prescriptions on the part of physicians. In case of doubt, the prescription should be sent back to the physician to be deciphered.

Opening Exercises of the Chicago College of Physicians and Surgeons.—These were held in the College Building, Oct. 1st. The address to the students was delivered by Dr. Sanger Brown.

Pasteur Institute.—Chicago Pasteur Institute, in its latest report, shows that since the establishment of the institution 1,150 patients have been treated, and of this number only 7 died, making the mortality but little more than one-half of one per cent. Records of untreated cases show that the mortality is about 88 per cent. for bites on the face, 67 per cent. for bites on the hands, and 20 to 30 per cent. for bites on the limbs and body. Many States and Territories, as well as Canada, have sent patients to the Institute. Of the total number of patients received, 1,040 had been bitten by dogs. Cats had wounded 36, horses 41, skunks 12, wolves 5, cows 6, calf 2, rat one, a mule one, a pig one, and human beings 6. Of the 7 persons who died, 4 were overtaken by hydrophobia soon after reaching the Institute, many days having elapsed since they were bitten.

A Hospital for Consumptives.—A home for consumptives has been established at Austin, the corner-stone of which will be laid October 20th. The building will cost \$150,000, and will occupy grounds of ten acres. It is being erected by the Sisters of St. Elizabeth's Hospital.

Bequest of Henry C. Durand.—By the will of the late Henry C. Durand, of Lake Forest, \$10,000 is bequeathed to the Presbyterian Hospital.

Chicago Medical Society.—This Society held its first meeting since the summer vacation October 2nd, in its new meeting-place, Schiller Hall. Dr. N. S. Davis, Sr., delivered an interesting address on "The Origin and Progress of the Chicago Medical Society." Dr. William A. Evans presented a paper on "Fat Necrosis."

Cook County Hospital.—Dr. Arthur R. Edwards and Dr. James B. Herrick have resigned from the Executive Committee. The President, Dr. Denslow Lewis, has appointed Dr. E. Fletcher Ingals to represent Rush Medical College, and Dr. Robert B. Preble to represent the Northwestern University Medical School. The Committee elected as Chairman, Dr. Wm. E. Quine, who appointed the following subcommittees: On clinical instruction, Drs. Baldwin and Webster; records, Preble and Lewis; morgue, MacKellar and Kearsley; admission and assignments of patients, Lewis and Swan; Internes and nurses, Ingals and MacKellar; laboratory, Kearsley and Baldwin. The Chairman, *ex-officio* member of all committees.

Testimonial Banquet to Dr. S. Davis, Sr.—

Dr. N. S. Davis, Sr., was tendered a testimonial banquet October 5, 1901, at the Auditorium Hotel, Chicago. It is estimated that there were three hundred physicians in attendance from the city and elsewhere.

Dr. Frank Billings acted as Toastmaster. Dr. James H. Stowell, a member of the Committee of Arrangements, called attention to the many eminent pupils that had graduated under the instruction of the distinguished guest. He said that the Deans of three of the largest medical schools in Chicago were pupils of Dr. Davis. Dr. Frank Billings said that while Dr. Davis was a Chicagoan, he belonged to the whole country. He was a New Yorker by birth, and was born on January 9, 1817. He was looked upon as a lever to elevate medical education. Among the chief characteristics of Dr. Davis' life he mentioned industry, tenacity of purpose, progressiveness, liberality, integrity, and a Christian spirit. Dr. Edward F. Wells made a speech in which he presented a loving cup to Dr. Davis. This beautiful cup, of Grecian design, was, in its lines and proportions, a model of simple, vigorous dignity, and was selected as being peculiarly emblematic of the character and career of the distinguished guest. Engraved upon one side was an excellent likeness of Dr. Davis; upon another was the leaf of victory, and beneath it the inscription, "Palman qui meruit ferat"—let him who has won it bear the palm; and beneath this, pioneer in local and national medical organization, and in graded medical instruction, and upon the other was this memorial tribute: "Presented to Nathan Smith Davis, A.M., M.D., LL.D., in recognition of his long and distinguished services to medicine, in its every field of usefulness, by the members of that profession which he has so conspicuously adorned, and to whose shield he has given an added luster."

Dr. Davis was enthusiastically received, and, in accepting the loving cup, expressed his cordial thanks for the demonstration of kindness. He thought it would probably be the last time he would have the opportunity to address such an audience. But before he sat down, he said: "If you want to promote harmony, cordiality, advancement; if you want to build up, stop pulling down anybody. If your neighbor does not do as you think he ought to do, talk about his good qualities, and let his bad go. In this way, you will soon establish harmony, you will soon have cordiality, and will have you own heart free, and your conscience will be right before your God."

Letters and telegrams of regret were received and read from various members of the profession all over the country. The following toasts were responded to: "The American Physician," by Dr. Charles A. L. Reed, of Cincinnati, Ohio; "International Medicine," by Dr. Donald Maclean, of Detroit, Michigan; "Western Medicine," by Dr. Archibald Church, of Chicago; "Medical Education," by Dr. Victor C. Vaughan, of Ann Arbor, Michigan; "Literary Medicine," by Dr. Hobart A. Hare, of Philadelphia, Pa.; "The Phy-

sician in Public Affairs," by Dr. Robert H. Babcock, of Chicago.

A short, but appropriate, speech was made by Dr. Edwin Ricketts, of Cincinnati, Ohio. Reminiscences of Dr. Davis were related by Drs. John H. Hollister, Edmund Andrews, Norman Bridge, and Frank X. Waxham.

GENERAL.

Medical Society of City Hospital Alumni, St. Louis.—The last meeting was held Thursday, October 3d. The following papers were read: "Report of a Case of Iodoform Poisoning," by Dr. Charles H. Dixon; "Some Observations on Malarial and Blackwater Fever on West Coast of Africa," by Dr. V. P. Blair.

Registration at Harvard.—The effect of stricter admission requirements in the Medical School is shown by a falling off of about 100 in that department. Beginning this year, only graduates of recognized colleges or scientific schools will be admitted.

Huntington Mansion to Become a Hospital—The widow of Collis P. Huntington has announced that the Huntington house, at California and Taylor streets, San Francisco, will never be privately occupied again. Mrs. Huntington said: "I have determined to devote the house to some charitable purpose, just what I am not prepared to say. I may convert it into a hospital for women."

Wholesale Disinfection.—During the past summer Galveston has been disinfecting with a sprinkling cart. To the alleys, the low streets, the fronts of market houses, and the refuse of fish and oyster shops, the cart has paid almost daily visits, and it is generally admitted that the practice has done much to preserve health. The Board of Health is working on the "ounce of prevention" principle, and the disinfecting cart was part of its campaign of education in the advisability of a liberal use of disinfectants. Those who will agree to use disinfectants are furnished with them by the city without cost, and the result, according to the *Galveston News*, is that the city has been in a superior sanitary condition throughout the season.

Obituary.—Dr. R. H. Nesbitt died of gangrene of the intestine at New York Hospital, Thursday morning, Oct. 10th. Dr. Nesbitt was a resident of Wheeling, W. Va. He graduated two years ago from the College of Physicians and Surgeons with honor. In the competitive examination for New York Hospital he obtained the second appointment and has served in that hospital for the past two years. While serving in the hospital he was operated on for a severe gangrenous appendicitis and recovered. Fibrous bands which then formed are supposed to be the cause of the gangrene in the present attack. After serving his regular service in the hospital he had charge of the private pavilion and has just returned from Europe.

CORRESPONDENCE.

A MCKINLEY MEMORIAL.

A SEASIDE SANATORIUM WITH A PAVILION FOR EVERY STATE FOR THE TREATMENT OF AMERICAN CHILDREN SUFFERING FROM TUBERCULOUS AND SCROFULOUS DISEASES, OR PREDISPOSED TO CONSUMPTION.

To the Editor of the MEDICAL NEWS:

DEAR SIR: During the past week some lay and some medical journals announced that it was intended to erect in Washington a McKinley Hospital in honor of our late beloved president.

Beautiful as this idea may be, I believe that a little memorial hospital, located in Washington, is not a great enough tribute to a nation's president such as was William McKinley. Furthermore, while I would not wish to say that there is no room for a hospital for the treatment of general diseases in Washington, I know that there is no urgent need for it. On the other hand, I know, and all physicians and charity workers of our large Eastern and Western cities will bear me out when I say that there is a crying and urgent need of a sanatorium, or rather several sanatoria where the many little scrofulous and tuberculous children of poor parents could receive treatment, care and the necessary education. France, Germany, Holland, Italy, and the Scandinavian countries all have numerous seaside sanatoria where the little sufferers afflicted with the above-mentioned diseases are taken care of. The seacoast climates, combined with proper sanatorium treatment, seem to produce really wonderful results in scrofulous and tuberculous children. The reports of some of the European seaside sanatoria show an average of 75 per cent. of cures.

We in America have, with the exception of one or two small children's hospitals and a few floating hospitals during the summer months, no such institutions. In a little address delivered at the recent Congress on Tuberculosis in London, I said that in our eagerness to take care of the consumptive adult we should not forget the little sufferers afflicted with the same or other tuberculous diseases. To treat the scrofulous or tuberculous child (scrofulosis being only a milder form of tuberculosis), or to prevent a child with a hereditary tendency from developing consumption or any other form of tuberculous disease, means the saving of a life and perhaps the preservation of a very useful future citizen.

To realize the urgent need of seaside sanatoria for children one must have visited the crowded tenement districts of our great cities and seen the large number of scrofulous and tuberculous children there and the many who bear on their pale little faces the stamp of candidates for consumption (pulmonary tuberculosis).

There are already laws in some States prohibiting the tuberculous child from attending public school; but as far as I know none of these States

have provided other places where children suffering, it is true, from a chronic communicable but also curable disease can receive the education to which they are entitled, much less where they could have a chance of being cured of their affliction. The results obtained in some of our American sanatoria for the treatment of tuberculous adults are as good as any of those obtained in European institutions. The preventive measures inaugurated by our New York Board of Health have not only served as models for other American cities but have been imitated by many European municipalities and found to be the most practical and efficacious. We have already a number of sanatoria for the treatment of the consumptive poor adults, though by no means enough. However, in nearly every State of the Union the question of providing institutions for adult tuberculous patients with little or no means is now being agitated. Only for the countless little ones suffering from the same or other tuberculous diseases there is nothing done.

Our good McKinley had two children, and these he lost. He dearly loved little children and the creation of a sanatorium for the treatment and prevention of a disease with which so many American children are afflicted would surely be a fitting memorial to this great man and lover of children. "McKinley Sanatorium for the Treatment and Prevention of Tuberculous Diseases in Children" should be the name of such an institution.

The meaning of the name William McKinley, written on the portals of these houses of hope for many a suffering mother's heart, will be made clear to these little inmates by their teachers and friends.

The word McKinley will embody to these little sufferers all that is needed to make them good patients, obedient pupils, noble men and women, true American citizens. McKinley's fortitude during the last days of his life must teach them what all patients need: Trust in God, confidence in their physician, patience. His words of forgiveness to the very man who slew him must show these little children the sublimity and nobleness of his character. McKinley's life as a man, citizen, patriot, and president embodies all that is truly American. A better example to teach our children the meaning of true manhood and true patriotism we can not find.

Let all American men and women who can afford it contribute through their children or through their children friends toward the realization of this McKinley sanatorium.

In letting the children of parents of means who are happy and will bring their mites toward a movement of this kind a lesson of charity and patriotism may be taught to them as well. There will be found in every community responsible and patriotic citizens to take this matter in hand and bring it to a successful issue. Let each State contribute enough to have its own pavilion in which to place its children. Let the Atlantic and Pacific coast be lined with such institutions, one or two

pavilions for each State according to its needs. Let good schools be attached to each sanatorium so that the intellectual development of the children may not suffer.

There exists in the North Sea (German Ocean), on the island called Norderney, a beautiful flourishing sanatorium for the treatment of tuberculous children. Its name is "Kaiser Friedrich Hospiz" and it was erected in memory of that unfortunate emperor Frederick the Third, whom the German people so fondly call "Frederick the Noble." In the fortitude of this beloved sovereign, in his patience, in his martyrdom, in his love for the people, in his ideas and ideals of what should constitute a free and just nation, there is a great similarity to our beloved McKinley.

We too may call our martyred ruler "the Noble," and to his memory erect a memorial of practical utility. Let us build an institution where the lives of American children can be saved, to be sent forth in health and vigor to their respective communities, and to help finish the work for which McKinley lived and died: to make the American nation the greatest, the noblest, the foremost of the world.

Very truly,

S. A. KNOFF, M.D.

New York, October 9, 1901.

CHRISTIAN SCIENCE AND MENTAL EPIDEMICS.

To the Editor of the MEDICAL NEWS,

DEAR SIR: Concerning the question of Mental Epidemics referred to in the opening of my article upon *Christian Science "Cures"* published in your issue of July 27th last, I ask you to be kind enough to print the following facts.

Epidemics of mental disease are not new, as some medical men, not alienists, of course, seem to believe. Upon the other hand, they date back as far as the year 1000. The subject is referred to at considerable length by Esquirol in his "mental maladies," of which there is an English translation. He gives a complete account of the "Miller Mania" which "Originated in the readings, reflections, and dreams of one William Miller of the State of New York, who came to know about the year 1840 at what time 'the Lord was to appear in the heavens' and the end of all things to come."

The question of mental epidemics is admirably discussed by Dr. Boris Sidis, of the New York Pathological Institute, in his most interesting book "The Psychology of Suggestion" (Appleton, 1898.) Upon page 349 of this work may be found a chronological table of "the uninterrupted chain of European epidemics."

Pilgrimage epidemic	1000 to 1095
Crusade epidemic	
{ Eastern & Western crusades, }	1095 to 1270
{ Children's crusade. }	
Flagellant epidemic	1260 to 1348

Black death & antisemitic mania...1348

Dancing	{ St. John's dance...1374 }	} to the end } of the 15th } century.
mania	{ St. Vitus' dance...1418 }	
	{ Tarantism1470 }	

Demonophobia, or witchcraft	} to the end } of the 17th } century.
mania	

Speculative mania	{ Tulipomania	1634
	{ The Mississippi Scheme.....	1717
	{ The South Sea Bubble.....	1720
	{ And bubbles to our own times.	

I wish it distinctly understood that I have simply copied Dr. Sidis' table, and have neither added nor omitted anything.

LAWRENCE IRWELL.

344 Hudson St., Buffalo, N. Y., Sept. 17, 1901.

WHAT CONSTITUTES A QUACK, IN THE PROPER SENSE OF THE TERM?

To the Editor of the MEDICAL NEWS:

DEAR SIR: It occurs to the writer's mind that an expression of opinion by the Editor on the above question would be of interest and great service to NEWS readers, stimulating them to greater efforts in studying physiological or natural methods in the treatment of disease. The fact of the NEWS having printed an editorial some months ago on the Scientific Basis of Hydrotherapy, taking strong ground in favor of the schools devoting more time to the teaching of non-medicinal therapeutics, together with the further fact of its acceptance of a most radical article on typhoid fever by the writer, in which the greatest stress was placed on the value of hydrotherapy and therapeutic fasting, drugs being practically ignored, emboldens me to make this plea.

Let me put it in this way: Here is a physician of the most regular order, the owner of one or more parchments, practising according to our strict code of ethics and after the teachings of the schools. He loses, say fifteen out of every one hundred cases of typhoid fever, the average mortality in the Massachusetts General Hospital during the past forty years having been 15.5 per cent.

Over against this showing I will place the record of a non-graduate, or shall I say a man who twenty odd years ago "graduated" from a truckcart; that is, he was a hard-working truckman. He got hold of a work on "The Water Cure," became greatly interested therein, and aside from that he subscribed for a health journal and read everything he could find along this line. He began practising by treating here and there one of his poor neighbors gratis. His success induced him to devote his entire time to his new work, and he finally became a very busy practitioner. For upwards of fifteen years he was one of the busiest and most successful doctors in this city. Naturally enough a great share of his practice was in cases given over by his regular contemporaries, or rather, I should say, that came into his hands

after unsatisfactory results from regular treatment.

Speaking generally, the laity demand first of all the regular stamp on their family physicians; if worse come to worst, and they have to make any change, they may consult a Christian Science faker, a spiritualistic "seer," or—a water-cure doctor! The latter may be consulted in pure ignorance of there being any special difference between empirics, as we are apt to style all irregulars. This special empiric took all sorts of cases, diphtheria, typhoid fever, pneumonia, puerperal, rheumatic, scarlet—in short every form of fever. His success was far and away beyond any regular physician in our midst. He seldom lost a patient with typhoid fever and labored energetically year after year, doing splendid work.

He was a skilled masseur; he knew how to employ water very skilfully; he never permitted a fever patient to eat a morsel of food until convalescence was fully established; he seldom employed any medicament, although he was apt to prescribe a placebo of his own concoction, an inert water mixture that could not in the most remote way deplete the vital organism of his patient.

He was by the profession, and even by the laity in general, called a quack; but was he that? As between a doctor who goes along practising blindly and lazily after the teaching of the schools, having long illnesses and losing many patients by death, on the one hand; and, on the other, a physician such as I have described, which, let me ask, is the quack?

CHARLES E. PAGE, M.D.

Boston, Oct. 2, 1901.

A SANATORIUM FOR TUBERCULOSIS.

To the Editor of the MEDICAL NEWS:

DEAR SIR: It is a pleasure to announce that New Mexico is no longer under the reproach of not providing adequate accommodations for tuberculous invalids. An institution fully equipped for the practice of the modern therapeutics of tuberculosis has been established at Silver City, New Mexico. The Sisters of Mercy, who have it in charge, bring to bear their long experience in the management of hospitals, and sanatoria, and the fact that the Institution is conducted by them is a surety that every effort is made to maintain a high standard of efficiency.

It is a well known fact that Silver City possesses exceptional climatic advantages. The question of climate was most carefully considered in selecting a site for the U. S. General Hospital for the treatment of tuberculous soldiers, and the representatives of the Government finally decided upon Fort Bayard, six miles from Silver City.

Writing particularly of Silver City, Prof. C. B. Penrose of the University of Pennsylvania states that he spent two years roaming over this arid district and that as a result of his personal

experience he believes that a greater proportion of cases get well in New Mexico than in any other Territory or State. (Wood's Practice.)

The maximum amount of rainfall is less than 15 inches. The complete aridity of the region attests the dryness of the atmosphere. Both heat and cold are unknown. Our summers are cool and winters warm, the former condition being the result of an altitude of 6,000 feet—itsself a manifest advantage, and the latter due to the latitude, which is that of Savannah, Ga. Then, comfortable outdoor life is practicable at all times during the year. In this respect we are more fortunate than other southwestern resorts where the weather is enervatingly warm during the summer. The last annual report of the U. S. General Hospital at Fort Bayard conclusively demonstrates the utility of our climate in the treatment of pulmonary and laryngeal tuberculosis.

The régime at St. Joseph's Hospital includes careful medical supervision, as well as very possible sanitarium comforts. The cuisine is first-class, rooms airy and cheerful and porches commodious. Complete reports of progress in any case are furnished the home physician when desired.

Very respectfully,

E. S. BULLOCK, M.D.,
Medical Director.

Silver City, N. M., September 28, 1901.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

THE PROGNOSIS OF ASCENDING GONORRHEA IN WOMAN—RESPIRATION DURING THORACIC ANKYLOSIS—TRAUMATIC TABES—MYELOGENOUS BONE-TUMORS—GASTRIC CARCINOMA.

THORN, at the Medicinische Gesellschaft zu Magdeburg, June 6, 1901, read a paper on the subject of ascending gonorrhea in the female and more especially on its immediate and ultimate prognosis. There is at the present time a mild reaction in Germany against the former immediate and more or less radical operative interference in this case, which implied unilateral or bilateral extirpation of the adnexa. A conservative, often non-operative therapeutics, is now the rule and in his own opinion has been for many years the proper one. Recently Krönig published a series of valuable statistics on this subject which bear out this opinion and render discussion of the subject proper. If one can positively show that the primary and secondary prognosis of this ascending disease is far better than it was formerly pronounced to be; then the number of "clearings out of the pelvis" and other visceral ablations will decrease and the therapeutics of the trouble assume a kindlier and less damaging phase, especially in the large cities. How difficult this will be in the face of a false prudery is at once apparent, even among such a class of people as the maritime. Thorn has,

however, had the good fortune to see a large number of relatively early cases of gonorrhea in women, the ascension of which was successfully hindered by the timely and proper application of suitable remedies. Extension upward of any bacteria is normally and effectually hindered by the anatomical conditions at the internal os uteri. This rampart is usually scaled only during menstruation or the early puerperium or by the improper use of sounds, irrigations, applications and curetting. Suitable means, however, aside from these conditions which favor promulgation of the cocci, do succeed although the so-called abortive treatment usually leaves little result behind. The use of the sound must be limited more and more in gynecology and always with increasing aseptic and antiseptic precautions. Probably the instrument can be practically discarded altogether in the presence of other carefully combined examinations. Whenever possible the patient must be put to bed and in charge of a nurse, with full warning to and understanding by both of the great responsibility inherent in any relaxation of the treatment and especially in any exposure to reinfection. If the gonococcus has really invaded the corporal endometrium it may still be possible to avoid its entrance into the tubes if only a precocious local treatment is carefully avoided. An active gonorrheal endometritis permits no local interference with safety, but the usual post-gonorrheal inflammations are the very ones which do. Even after the tubes and parametrium have become involved, complete restitution, with preservation of the powers of conception, is possible. The early peri-uterine reaction may easily deceive the inexperienced into believing the changes to be permanent. The rapid enlargement of the tube, the various adhesions present often recede or disappear entirely under appropriate antiphlogistic treatment and rest in bed. The rapidly developed and often astonishing tumors which appear in the pelvis are made up not so much of the tubes with intratubal exudates as of the tubes with their contents augmented by peritubal exudates, adhesions, seroceles and intestinal coils. It may seem paradoxical, but yet it appears to be a fact, more and more, that the invasion of the peritoneum by the gonococcus is rarely if ever fatal. To this statement the recent researches of Bumm lend authority and, therefore, too premature a laparotomy must be avoided. Bumm has stated that the gonococcus practically never causes death by peritonitis in woman. Wertheim has shown that this germ can not penetrate the myometrium. Hence it must be concluded that when a parametritis occurs, probably a mixed infection was present at the outset. Admittedly only a few of the advanced cases of ascending gonorrhea result in absolute restitution, but of the others during the course of the first year a recession of all the complications commonly results from good treatment and from that period onward, the tendency is toward a more or less complete restitution of the visceral func-

tions. According to the admirable statistics of Bumm and Krönig, in about 90 per cent. of all cases such an improvement takes place during the first five years. The question of sterility is also, according to these observers, not so serious a one as many authors have in the past claimed. The older and especially the newer results all tend to show that the prognosis of ascending gonorrhea is not as serious as was at first suspected and when one considers the unpromising records of the early operative therapeutics this fact is more and more established. In perhaps fifty to sixty per cent. early operation has failed to produce any very great success. The total ablation of the internal organs of generation would probably be better, but except in women near their menopause no one would recommend this. It is in the young women sexually that these troubles are usually encountered and to such a premature menopause is often disastrous. Even in the operative cases vaginal incision and drainage of these pus-collections require better judgment and skill than does the laparotomy. It is certain, therefore, that in the future the treatment of choice for these cases will be first the expectant, then the operative of which the total ablation of the adnexa is a last resort.

J. MÜLLER, at the Physikalisch-medicinische Gesellschaft zu Würzburg, July 18, 1901, noted his observation of a case of progressive inflammatory ankylosis of the thoracic vertebral column, continuing to involve the rib-joints also. Therefore, the changes in the volume of the chest which follow upon the rise and fall of the ribs are absent and breathing is confined solely to the action of the abdominal muscles and the diaphragm. The rest of the symptom-complex, which Strümpel was the first to fully describe, was by this case entirely ratified. Only the lowermost ribs were movable at all and then only to the limit of 6.5 cm. in circumference. The rest of the ribs moved only a very little, even in deep respiration. The excursions of the abdominal muscles, however, were very much augmented, so that at the navel they reached the limit of 4.5 cm. Expiration was marked by the appearance of a deep abdominal furrow. The vital capacity of the chest was decreased by nearly 400 c.cm. under the normal standard of 2040 c.cm. One might assume then that compensatory abdominal respiration may produce various secondary effects. Dyspnea was present in a short time following any effort at forced respiration, not in its frequency as in its depth. The natural number of respirations was 22 to 24 in bed to 20 to 22 on the feet. The pulse was regularly accelerated to about 100 and upon easy effort to about 140. This may have been due to the impediment offered the heart by the over-acting diaphragm. The typical bending of the trunk forward seems to be due to the abnormal play of the abdominal muscles and was present in this patient to a marked degree.

STRAUSS, at the Gesellschaft der Charité-Aerzte in Berlin, July 18, 1901, gave a clinical

demonstration of traumatic tabes. The workman had fallen into a ditch two years before the development of left-sided ataxia, emaciation, absence of pupillary reflexes and of the patellar reaction. After the accident only a difference in the pupils was noted. Infection and inflammation from cold were both denied.

VON KRYGER, at the Aertztlicher Bezirksverein zu Erlangen, June 24, 1901, read a paper discussing conservative treatment in surgery of myelogenous bone-tumors. The burden of his conclusions rested upon several cases and their results, of which the following are the most important. From the lower third of the humerus of a man a sarcoma was taken in such a manner that only a small shell of bone carrying the internal condyle remained. The patient made a perfect recovery, but has a movable joint. In a young girl a sarcoma was also taken from the femur, involving much of the internal tuberosity. About sixteen centimeters of its lower extremity were sacrificed and the bone-stump morticed into a socket chiseled out in the head of the tibia. The result in this patient is not yet complete, but promises well for the immediate present. At this moment she is going about with a plaster-of-Paris dressing. Such results, of course, have no reference to the question of ultimate recurrence of the growth and certainly are not comparable to such as usually follow high amputation in this respect, but they are less dreadful for the patient to contemplate and usually secure a much earlier permission to operate. Moreover, function with part of a normal limb, as in both of the above cases, is easier and better than with the most finely adjusted apparatus. A comparison can in broad terms be made to the conservative treatment of carcinoma of the stomach. We see, for example, in cases of gastric carcinoma. The most severe symptoms of obstruction disappear after the operation, the patient gains greatly in weight and strength and lives happily for a year or more, although the tumor goes quietly on growing. Similarly cicatricial stenoses of the pylorus may be greatly benefited by the more conservative treatment. At Erlangen Von Hacker's retrocolic method is preferred to Wölfler's antecolic method. The after-treatment in these gastric cases is important. As a rule rectal feeding should be employed at first. Then fluids by mouth and finally after two weeks, sometimes less, full diet. As a rule, all cases do very well under this regimen.

THERAPEUTIC HINTS.

Cuprol and the Eye.—S. SNELL (*Lancet*, Sept 14, 1901) states that cuprol, the new combination of six per cent. copper with nucleic acid, is a most valuable substitute for copper sulphate in the various conjunctival affections in the eye. Less irritating, more penetrating, not coagulating with albumin and alkalis, less

painful in actual application, and, so far as results at present have shown, equally active therapeutically as the old "blue stone," it seems to be in virtue of these characteristics a most desirable substitute for it. He has used it with great satisfaction in granular lids, trachoma and pannus and purposes extending its field of application to the other conjunctival affections.

Treatment of Psoriasis.—At a meeting of the Dermatological Society of Vienna, H. STEINER (*Revue de thérap.*, Sept. 1, 1901) presented a patient, thirty-eight years old, who had been suffering with psoriasis for nine years. He had been treated in different hospitals with tar, pyrogallic acid, arsenic, with but little success. He had constant relapses. Four weeks prior to his presentation to the society he came to the author with an acute attack. He was given a hypodermic injection of half a syringe of boiled Levico water, in the dorsal region. On the third day a syringe of Levico water was injected; on the fifth day, 2 syringes; on the tenth day, 3 syringes, etc. In all, the patient received 22 injections. There was continuous amelioration and at the time of presentation the previous diseased skin presented only slight pigmentation. The injections of Levico water are easily made, act rapidly and gastric disturbance is avoided. In therapeutic action, Levico water is very much like the cacodylates. It is claimed that sulphur which it contains in combination is an advantage, as it is said to exert a vaso-constrictor influence.

BOOK REVIEWS.

A TEXT-BOOK OF GYNECOLOGY. Edited by CHARLES A. L. REED, A.M., M.D., Gynecologist and Clinical Lecturer on Surgical Diseases in Women at the Cincinnati Hospital; Fellow of the American Association of Obstetricians and Gynecologists; Fellow of the British Gynecological Society, etc. D. Appleton & Co., New York.

THIS is the latest development in the evolution of the composite book and is peculiar to itself. In its original form the composite work was simply a conglomerate, the various chapters being written by different men and standing as they were written, the editor doing little more than writing an introduction and serving as a whip to secure the material from the various authors. In the next stage the editor felt the necessity of eliminating repetitions and harmonizing the material so as to give the volume more homogeneity. Practically the editor rewrote everything and eliminated the individuality of the various authors. This reached its extreme limit noticeably in the American Text-Book of Gynecology. In the volume under consideration the editor has

remodeled the material of every contributor to a greater or less extent and tells in narrative form what the original writer had to say upon the subject. Thus, Dr. Foster is credited with the paragraph on nomenclature and we quote: "The language of medicine, says Dr. Frank P. Foster, is by no means free from the defective neologisms that are to be found in the contemporary literature of the other sciences. * * * He considers that their formation is for the most part to be attributed to the rage for designating diseases, operations, and the like, by single words." To take another illustration. Dr. Carstens is credited with the paragraphs on Palliative Treatment of Cancer and we find these sentences: "Carstens has observed cases in which this treatment has been followed by perfect healing, etc. * * * In such cases Carstens proceeds as follows: * * * Carstens applies it at once as follows," and so on. This method necessitates the constant repetition of the author's name and gives to each chapter the character of an editorial comment on the author's article. This is not necessarily objectionable, but we call attention to it as the latest method of text-book making.

The work is a composite from thirty-one different specialists, all Americans except the four who were drawn from Great Britain. These are not all gynecologists. It was considered best that the various departments of medical science synthetically related to gynecology should be represented by their respective specialists, pathology by a pathologist, bacteriology by a bacteriologist, dermatology by a dermatologist, etc. Consequently a single chapter may be the product of the contributions of several writers each one contributing a paragraph or more upon that part of the subject following in his department. The effort of the editor has been to render this all consecutive, systematic and homogeneous in the manner just described.

In the list of contributors appear the names of Ballantyne of Edinburgh, Murdock Cameron of Glasgow, Sinclair of Manchester, England, Coe, Dercum, Hare, Herzog, Mann, Dan Millikin, Warren Potter, Newman, Rothrock, Tabor Johnson, and others to the number, as we have said, of thirty-one. The result is on the whole a very satisfactory work. It presents in a vigorous, fresh and attractive way the present status of gynecology in all its multifarious details. It should be called a treatise on gynecology rather than a text-book, for in no way is it adapted to the student's use unless it be the post-graduate student. The ideal text-book in this specialty is yet to appear and when it does come it must be the work of one who has the faculty of omitting the doubtful, uncertain, and non-essential features, simplifying the abstruse and elaborate, and setting forth the essentials in strong and graphic light.

The book before us does honor to American gynecology. It is a valuable treatise, forceful, complete, interesting, instructive and well-illustrated. It is the latest and the best.

ANATOMIE GÉNÉRALE APPLIQUÉE A LA PHYSIOLOGIE ET A LA MÉDECINE. Par XAVIER BICHAT. Première Partie. Premier Fascicule. G. Steinhil, Paris.

THE author here presents a volume which he believes to be an exposition of a new point of view. The plan is to consider in detail each of the simple systems which by their combinations form our various organs, and in this substratum build up a medical system based on the individual characters of these distinctive tissues.

How well this has been done must be determined when the entire work has been given us, but from a hasty reading it would seem that the work abounded in fanciful and theoretical allusions somewhat comparable to "newspaper science" of the yellow type.

A MANUAL OF SURGICAL TREATMENT. By W. WATSON CHEYNE, M.B., F.R.C.S., Professor of Surgery in King's College, London, and F. F. BURGHARD, M.D., F.R.C.S., Surgeon to King's College Hospital, London. Volume V. The Treatment of the Surgical Affections of the Head, Face, Jaws, Lips, Larynx and Trachea; and the Intrinsic Diseases of the Nose, Ear and Larynx by H. LAMBERT LACK, M.D., F.R.C.S., Surgeon to the Hospital for Diseases of the Throat, London. Lea Brothers & Co., Philadelphia and New York.

As in the former volumes of this series, the foremost place is given to treatment of the surgical affections discussed, while diagnosis and pathology are relegated to the background. As we have previously pointed out, the volumes will, when they are completed, form a manual of surgical therapeutics which covers the entire field of surgical pathology. The present volume is no exception to its predecessors in thoroughness, in literary style, and in the description of perfect surgical technic. As has previously been the case, the authors have well described the after-treatment of surgical operations, details which are usually lacking in mere surgical text-books.

We note with pleasure that the authors do not approve of craniectomy for microcephalus, an instance which discloses clearly, we think, how they have caught the spirit of advanced modern surgery. The various plastic operations are well described, while the description of the surgical measures dealing with the special organs of respiration is exceedingly thorough and readable. The volume is profusely and well illustrated.

PATHOLOGIE GÉNÉRALE ET EXPÉRIMENTALE. LES PROCESSUS GÉNÉRAUX. I. Histoire naturelle de la maladie—Hérédité—Atrophies—Dégénérescence—Concretions—Gangrene. Par MM. A CHANTEMESSE, Professeur de Pathologie Expérimentale, Paris, et W. W. PODWSSOTSKY, Professeur de Pathologie générale, Odessa. C. Naud, Paris.

THIS is the first contribution of 428 pages to a history of the aims and purposes of general and

experimental pathology. It is devoted to a study of those common factors which underlie abnormal function and does not attempt to enter the domain of special pathology by considering the details of the changes in any particular organ.

In introducing the general subject of sickness, the authors immediately go to the fundamental tissues and present us with a complete dissertation on cytology which leads up to the interesting topic of cellular heredity and to pathological heredity. The most recent observations of the biologist are here to be found and the discussion is well worth the reading.

Cellular nutrition is then taken up and the various atrophic troubles leading to degeneration considered. This is an extremely interesting chapter, both from the standpoint of good science and for the suggestibility of the ideas set forth.

Following this the different types of degeneration, parenchymatous, hyaline, amyloid, corneus, watery, mucous, colloidal, glycogenic, fatty, pigmentary, etc., are treated in full, and illustrated with a beauty and fulness rarely seen.

Deposits, incrustations and concretions are taken up in Chapter VIII., and in Chapter IX., the concluding chapter, necrosis, mortification and gangrene are considered.

From all points of view this is a desirable addition to the works on general pathology, giving as it does the latest and best information on the subjects treated in a comprehensive and authoritative and excellent manner. The publishers have given a beautiful volume and are to be congratulated on the high character of their work.

SYPHILIS; ITS DIAGNOSIS AND TREATMENT. By WILLIAM S. GOTTHEIL, M.D., Professor of Dermatology and Syphilology, New York School of Clinical Medicine; Dermatologist to the Lebanon and Beth-Israel Hospitals, the West-Side German Dispensary, etc. G. P. Engelhard & Company, Chicago.

THIS little book is, as the author states in his preface, intended especially for the general practitioner "who treats syphilis only occasionally or incidentally." But as the subject is carefully and concisely, though, of course, most superficially described, and the advice given invariably sound and commendable, we see no reason why this little work should not find a field of usefulness beyond that mentioned by its author. There are quite a number of well-chosen and most useful illustrations, and in paper, print and binding, the publishers have left little to be desired. For a clear and attractive introduction to the study of syphilis, Dr. Gottheil's small manual may be thoroughly recommended.

BOOKS RECEIVED.

The MEDICAL NEWS acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the MEDICAL NEWS will shortly appear.

TRAITÉ DE MÉDECINE ET DE THÉRAPEUTIQUE. By Drs. P. Brouardel and A. Gilbert. Tome 8. Maladies des Pleures et du Mediastin. Maladies de l'Axe Cerebro-

Spinal. Par M.M. Landouzy, M. Labbé, Galliard, Menerier, Boinet, Achard, Ballet, P. Marie, Levi and Klippel. 8vo, 848 pages. Illustrated. J. B. Bailliere et Fils, Paris.

THE DISEASES OF THE RESPIRATORY ORGANS, ACUTE AND CHRONIC. By Dr. W. F. Waugh, 12mo, 221 pages. Illustrated. G. P. Engelhard & Co., Chicago.

INTERNATIONAL CLINICS. Vol II., Eleventh Series, 1901. J. B. Lippincott Company, Philadelphia.

SEXUAL HYGIENE. 12mo, 269 pages. The Clinic Publishing Company, Chicago.

MATIERE MÉDICALE ZOOLOGIQUE. Par Dr. H. Beauregard. 8vo, 396 pages. Illustrated. C. Naud, Paris.

THE PATHOLOGY AND TREATMENT OF SEXUAL IMPOTENCE. By Dr. V. G. Vecki. Demi 8vo, 329 pages. Illustrated. Third Edition. W. B. Saunders & Co., Philadelphia and London.

SYPHILIS; ITS DIAGNOSIS AND TREATMENT. By Dr. W. S. Gottheil. 12mo, 216 pages. Illustrated. G. P. Engelhard & Co., Chicago.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD FOR DIAGNOSTIC PURPOSES. By Richard C. Cabot, M.D. Fourth Revised Edition. 8vo, 454 pages. Illustrated. William Wood and Company, New York.

LIBERTINISM AND MARRIAGE. By Dr. Louis Jullien. Translated by R. B. Douglas. 8vo, 165 pages. F. A. Davis Company, Philadelphia.

AN INTERNATIONAL SYSTEM OF ELECTRO-THERAPEUTICS. By H. R. Bigelow, M.D. Second Edition. Edited by G. B. Massey, M.D. 8vo, 1,147 pages. Illustrated. F. A. Davis Company, Philadelphia.

TRANSACTIONS OF THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION. Ninth Annual Meeting. 8vo, 391 pages. Illustrated. F. A. Davis Company, Philadelphia.

A TREATISE ON THE ACUTE, INFECTIOUS EXANTHEMATA. By W. T. Corlett, M.D. 8vo, 392 pages. Illustrated. F. A. Davis Company, Philadelphia.

MANUAL OF CHEMISTRY. By D. W. Simon. 8vo, 613 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

A HAND-BOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY. By Drs. Francis Delafield and T. Mitchell-Prudden. Sixth Edition. 8vo, 819 pages. Illustrated. William Wood and Company, New York.

PROGRESSIVE MEDICINE. Edited by Dr. H. A. Hare. Vol. III., Sept., 1901. Diseases of the Thorax and Its Viscera, Including the Heart, Lungs and Blood Vessels—Dermatology and Syphilis—Diseases of the Nervous System—Obstetrics. Lea Brothers & Co., New York and Philadelphia.

A MANUAL OF DETERMINATIVE BACTERIOLOGY. By Dr. F. D. Chester. 8vo, 401 pages. Illustrated. The Macmillan Company.

PROCEEDINGS OF THE NEW YORK PATHOLOGICAL SOCIETY for the Years 1899 and 1900.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By Dr. William Osler. Fourth Edition. 8vo, 1,182 pages. D. Appleton and Company, New York.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By Dr. W. A. N. Dorland. Second Edition. 8vo, 770 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

GUY'S HOSPITAL REPORTS. Edited by Drs. J. H. Bryant and F. J. Steward, London.

MANUAL OF THE DISEASE OF THE EYE. By Dr. C. H. May. Second Edition. William Wood and Company, New York.

SURGICAL TECHNIC. A Text Book on Operative Surgery. By Drs. Fr. von Eschmarch and E. Kowalzig. Edited by Dr. N. Senn. 8vo, 866 pages. Illustrated. The Macmillan Company, New York.